CHAPTER- I
INTRODUCTION

1.1 Background of Study

Investment simply means the purchase of paper assets i.e.; shares bonds, debentures, convertibles etc by postponing present consumptions for future. Investment is defined simple to be sacrifice of current consumption for future consumption whose main objectives is to maximization of wealth *(Sharpe and Alexander; 1998)*. Investment generally involves real assets or financial assets. Real assets are tangible, material things and financial assets involve contract written on pieces of papers such as common stocks, bonds and debentures

But in the study the word investment conceptualized the investment of income, savings or other collected fund. The term investment covers a wide range of activities. It is commonly known fact that an investment is only possible where there adequate savings. If all the incomes and savings are consumed to solve the problem of hand to mouth and to the other basic needs. Then there is no existence of investment. Therefore, both savings and investment are interrelated.

A distinction is often made between investment and savings. Saving is defined as foregone consumption; investment is restricted to "real" investment of the sort that increases national output in the future (*Vhalla: 1983)*.

Investment is concerned with the management of an investor's wealth which is the sum of current income and the present value of all future income. Funds to invest come from assets already owned borrowed money and savings or forgone consumption by forgoing today and investing the savings, investors expect to enhance their future consumption possibilities i.e. they are invested to increase wealth. Investors also seek to manage their wealth effectively obtaining the most from it, while protecting it from inflation, taxes and factors.

There are mainly three concepts of investment:

- Economic investment- that is an economist's definition of Investment.
- Investment in a more general or extended sense, which is used by "the man of street".
- The sense in which we are going to be very much interested, namely financial investment

The problem of investor is to select the funds whose objectives and degree of risk taking most closely match is own situation – the one that will accomplish for him what he would wish to do for himself if he could diversify and manage his own holding *(www. Britannica.com)*.

Investment is the use of money to earn income or profit. The term also refers to the expenditure of funds for capital goods – such items as factories, farm equipment, livestock and machinery. Capital goods are used to produce other goods or services. Many people invest part of their income for future financial gain. Others make investments to protect the purchasing power of their savings against rising prices.

Investment promotes economic growth and contributes to a nation's wealth. When people deposit money in a saving account in a bank. For example, the bank may invest by lending the funds of various business companies. These firms, in return, may invest the money in new factories and equipment to increase their production. In addition to borrowing from the banks, most companies issue stocks and bonds that they sell to investors to raise capital needed for business expansion. Government also issues bonds to obtain funds to invest in such projects as the construction of dams, roads and schools. All such investment by individuals, business and government involves a present sacrifice of income to get an expected future benefits. As a result, investment raises a nation's standard of living *(www.worldbook.com).*

Investment policy is an important ingredient of overall national economic development because it ensures efficient allocation of fund to achieve the materials and economic well

being of the society as a whole. In this regard, Joint Venture banks' investment policy pushes to drive to achieve priority of commercial sector in the field of Nepal's economic development.

1.2 Commercial Banks

Today banking is an industry in change; rather than being something in particular, it is continually becoming something new - offering new services, merging and consolidating into much larger and more complex business adopting new technologies that seem to change faster than most of us can comprehend. Despite all of the epic changes sweeping through this vital industry, some things in banking never seem to change. It is and probably always will be a service industry. However service accuracy, friendliness, and quality of service vary from bank to bank in most market areas. Unlike many other jobs, banking requires both technical and personal skills- rather than just one and the other. Banking- we can say is a relationship business. People come to trust in a bank and rely on its accuracy and stability when they need financial guidance, and they routinely expect courtesy when they deal with bankers. Despite the transition and turmoil in the banking sector, it requires special personal traits. Bankers can never stop learning because their industry is becoming something new everyday, and their customers expect them to be ahead of the curve. Banks are among the most important financial institutions in the economy; they are the principal source of credit (loan-able funds) for millions of individuals, business units and for many units of government as well. Moreover for everyone engaged in the financial activities- banks are often the major source of credit to stock their products; and besides when they need financial information and financial planning, it is the banker whom they turn most frequently for advice and counsel. Banks are those financial institutions that offer the widest range of financial services especially credit, savings and payment services and perform the widest range of financial functions of any business firm in the economy. This multiplicity of bank services and functions has led to banks being labeled 'financial departmental stores'.

In case of Nepal, banking started with the establishment of "Nepal Bank Limited" under the Nepal Bank Act 1994 B.S. However after adopting the policy of economic

liberalization by the government, the commercial banks paved its ways to the service sector; these commercials banks were established under the Commercial Banks Act 2031 B.S. and were registered with the recommendation of Nepal Rastra Bank- the central Bank of the country. In 2041 B.S. Nepal Arab Bank Limited was established as the first commercial bank (joint venture) Bank in Nepal – Later which was named and still known as NABIL Bank Ltd. After the regain of democracy in 2046 B.S. NRB adopted more liberal policy in establishing the commercial banks in Nepal. As a result the number of commercial banks have fostered since then. Apart from providing different services and facilities to the society it has also been providing modern banking by introducing higher technologies and efficient methods in the banking sector which has shown a new perspective of banking in Nepal these days.

Commercial banks are the heart of the financial system all the economic activities are greatly influenced by commercial banking business. They hold deposit of millions of people, business units and Government. And make fund available through investing and lending activities to the borrowing individuals, business units and government.

It is unavoidable fact that the role of the commercial banks in its economy is significant; as it mobilizes the domestic resources and invests in the productive sectors. Investment is the most important function of the commercial banks; it is the long-term commitment of the bank in the uncertain and risky environment. Hence it is a very challenging job for any commercial bank so it should be very cautious while investing their funds in various sectors, as the success and failure of the bank heavily depends upon the proper management of its invest-able funds.

1.3 Importance of Investment Practices to the Commercial Banks

Investment practices of the financial institutions, especially banks have long term impact not only on their growth and sustainability but also on the economic development of the country. Above all in today's scenario investing is a very risky job, hence to produce a safe and profitable investment; bank must follow a sound investment policy.

As we know that one of the main objectives of the commercial banks is to provide the fund needed to the community, i.e. lending service to the community. To make their lending service more effective, the commercial banks formulates sound investment/lending policies which eventually contributes to the economic development of the bank and further contributes to the overall development of the country. As we know that any action proceeded by plans-made are best implemented. Likewise, sound policies help the commercial banks maximize its quality and quantity of its investment and thereby, achieve their focused desired objective. Investment management of a bank is guided by the investment policy adopted by the bank which helps then in the investment operation of the bank to be efficient and profitable by minimizing the inherent risk. Investment practices comprises the set of guidelines and procedures that direct the long-term management of the investment. Without a clear vision of why the investment are being made and how the goals are to be achieved; it is likely to pursue inefficient approaches which leads to unsatisfactory results. An investment needs a plan that directs the efforts made, and that plan is the investment policy. However, the fundamental principles of the commercial banks like the volume and quality of deposit, loan, and investment are to be considered while making the investment practics. Besides the formulation of sound lending policies for all banks should have adequate and careful consideration over the community needs, size of loan portfolio, character of loan, credit worthiness of borrower and asset pledged to security borrowing, interest rate policy, etc.

It is believed that the soundness of a bank is reflected in the distribution of its funds on different types of assets. A good banker is one which follows a profound investment practices which brings maximum profit to shareholders and provides maximum security to the depositors. There are no any consistent rules as in to determine the portfolio of a bank. However there may be local conditions in which the bank operations will necessarily have a acceptance to its investment practices. And apart from the local conditions, a bank fundamentally is governed by three important principles while formulating its investment policy. The guiding principles of the investment policy of a commercial bank are liquidity, profitability and security; these three attributes are inter-related and any bank cannot afford to sacrifice one in favor of the other.

Every commercial bank has its investment practices to guide them on their investing operation. The basic factors that will determine the objectives of a bank's investment policy are its income, liquidity needs and the management's willingness to trade liquidity for greater income opportunities along with the degree of risk associated. Formulation of an investment practices must give awareness about the entire risk exposure that the bank management is willing to assume. One of the acceptable methods of reducing risks in the investment portfolio of a commercial bank is by diversification – a basic and important rule of any investment practices. Risk cannot be completely avoided by diversification, but they can be reduced. Besides the investment policy of a bank should be revised occasionally and modified as economic conditions changes.

The influence on the cost and availability of credit in the economy heavily relies on the loan and investment practices of the commercial banking system. Less exclusively yet significantly, the effectiveness of debt management and open market operations in influencing the terms of credit to private borrowers has been linked to the responsiveness of commercial banks to changes in market prices and yields to government securities. In any commercial banks we find that the deposit relationship of a loan customer is a primary consideration in determining the cost and availability of bank credit to that customer. Here the discussion is based in terms of the broader analytical categories of yield, risk, and liquidity applicable to any investor. But in case of a commercial bank, it neglects the role of deposit as the principle source of an individual bank's power to lend an invest, and this leads to the significance of the deposit relationship for the individual bank and its influence on broader issues as the cost and availability of the bank credit which totally depends upon the bank's investment practices. Hence the studying devoted to "The Investment Practices of Commercial Banks" is so important.

1.4 General Introduction of Selected Banks

1.4.1 Standard Chartered Bank Nepal Ltd

Standard Chartered Bank Nepal Limited (earlier known as Nepal Grindlays Bank ltd.) came into existence in 2043(1987) as a joint venture between ANZ Grindlays and Nepal Bank Ltd. After acquiring of the Grindlays operation in the region by standard chartered

in July 2001, it has become subsidiary of Standard Chartered London, which holds 75% of shareholdings in the company with remaining 25% held by the public shareholders. The bank has successfully completed 24yrs of its operation in Nepal in January 2011. The global network of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking in Nepal. With 18 points of representation and 23 ATMs across the kingdom and with around 429 local staffs, SCBNL is in a position to serve its customers through a large domestic network.

The Bank believes "A satisfied customer is our most valuable Award". The Bank has been the pioneer in introducing 'customer focused' products and services in the country and aspires to continue to be a leader in introducing new products in delivering superior services. It is the first Bank in Nepal that has implemented the Anti-Money Laundering policy and applied the 'Know Your Customer' procedure on all customer accounts.

Present Capital Structure of SCBNL

Share Capital & Reserves	Amount in NRs.
Authorized Capital	2,000,000,000
Issued equity capital	13,984,883,600
Paid up equity Capital	13,984,883,600

Promoters/Shareholders

Share Holding Pattern	Percent
foreign Ownership	75%
Domestic Ownership	
Other Entities	1.12%
Individuals	23.79%
Others	0.09%
Total	100%

Source: Annual Report of SCBNL 2012

1.4.2 NABIL Bank Ltd

NABIL Bank ltd, the first foreign joint venture bank of Nepal, started in 12th July 1984 [29th Ashad 2041]. Dubai Bank Ltd. was the initial joint venture partner with 50% equity investment. The share owned by Dubai Bank ltd. Was transferred to Emirates Bank International ltd. Dubai sold its entire 50% equity holding to National Bank Ltd. Bangladesh. NABIL was incorporated with the objective of extending international standard modern banking services to various sector of the society. Pursuing its objectives, NABIL provides a full range of commercial banking services through its 49 points of representation.

NABIL, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operation of the bank including day-to-day operations and risk

Management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATM's, credit cards, state-of-art, and world renowned software from Infosys Technologies System, Bangalore, India, Internet Banking system and Tele Banking system.

Present Capital Structure of NABIL

Share Capital & Reserves:	Amount in NRs.
Authorized Capital	2,100,000,000
Issued equity capital	2,029,769,400
Paid up equity Capital	2,029,769,400

Promoters/Shareholders

Share Holding Pattern	Percent
1. NB (International) Limited	50%
2. NIDC	10%
3. Rastriya Bema Sansthan	9.66%
4. Nepal Stock Exchange	0.34%
5. General Public	30%
Total	100%

Source: Annual Report of NABIL Bank Ltd 2012

1.4.3 Nepal Investment Bank Ltd

Nepal Investment Bank Ltd. (Nepal Indosuez Bank Ltd) was established on 21STjanuary 1986 as a third joint venture bank under the company Act 1964. Initially, the Bank is manages by Banque Indosuez, paris in accordance with joint venture and technical services. 50% of the shares of Nepal Indosuez bank ltd held by credit Agricole Indosuez was sold to the Nepalese promoters on April 25,2002 as per the transaction record of NEPSE. After this divestment of shares by Nepalese Owners, the name of the company was changed to Nepal Investment Bank Ltd. by its 15th AGM held on May 31,2002

The following Activities and services are provided by NIBL including normal functions are Tele Banking, Credit card facilities, SWIF Deposit Locke NTC's Mobile bill payment, ATM International Trade and Bank Guarantee.

At present, the bank has sum total of 40 branches and (70) ATMs throughout the country. For the FY 2067/68, the main strategy relating to branches will be consolidation and increased profitability. NIBL also released an electronic payment gateway, enabling secure VISA, MasterCard and PayPal transactions and e-commerce on the internet for the e-banking customers. American Life Insurance Company, ALICO has also tied up with NIBL to offer its life Insurance Products through NIBL's Bancansurance program. This bank is awarded by "Bank of year 2003, 2005, 2008, 2010".NIBL emerged as the number

one tax payer among the nepali banks comtributing Rs 790 million also making us the fifth largest taxpayers in the country.

Present capital structure of NIBL

Share Capital & Reserves	Amount in NRs.
Authorized capital	4,000,000,000
Issue capital	2,409,097,700
Paid up capital	2,409,097,700

Promoters/Shareholders

Share Holding Pattern	Percent
Group of companies holding	50
Rastriya Banijya Bank	15%
Rastriya Beema Sansthan	15%
Public	15%
Total	100%

Source: NIBL Annual Report 2012

1.5 Statement of the Problem

In our country we see unequal distribution of income which is the main cause of less mobilization of money which thus creates less saving, inadequate capital formation and insufficient investment. Here we have large population comfortably living (satisfied with what they have) and do not have the amount to spare; so these people should be encouraged to save money and make some investment for their future.

The numbers of joint venture banks as well as financial institutions have been set up at a rapid rate after the adoption of economic liberalization policy of the Government of Nepal. However in today's context, where the commercial banks are mushrooming, the competition among them has been a tough job, where it collects lots of deposits with comparatively low investment opportunities. And due to less investment they happen to discourage their depositors by reducing the interest on deposit and increasing the

minimum threshold balance-however nowadays the latter is diminishing instead used as the promotional tool to attract new depositors with minimal threshold balance. On the other hand, these banks seem to be granting much loan, advances and other facilities against insufficient collateral of their clients. Lack of sound knowledge about the financial risk, business risk and other risk leads to more unsecured loan and investment - which compels the bank towards liquidation and bankruptcy. Therefore appropriate investment policy is the essence of all the joint venture banks, commercial banks and other financial institutions to deal with the cutthroat competition.

It is not just because of lack of potential clients or adequate deposit, but the problem here is about the profitable sector or opportunities to invest. Banking sector are not able to grow to their potentials, they are facing problems from the external environment like unstable political, legal, economic and social scenarios in Nepal nowadays; and this leads to resulting insecurity towards any investment. For this reason also there should be a proper investment plans to be made concerning about its-how, where and when the investment is to be made.

Various policies launched by NRB may add advantage to the nation, but also providing unnecessary interference in the daily transaction of the commercial banks. Major problems in state owned commercial banks today are: overstaffing, corruption, cutthroat competition including the never ending offers it makes to attract the customers; which affects the investment policy as well.

Moreover, this study will analyze the relationship of investment practices and the deposit mobilization and the profit position of the banks. Specifically this study will make a modest attempt to analyze the investment practices of selected commercial banks which relates to the investment function of the commercial banks of Nepal as a whole and also deals with the supporting issues like:
- How reasonable are the commercial banks in Nepal-in accordance to their investment practices?

- What is the standard form of the investment practices the commercial banks should have?
- And whether the banks today are following the rule or not, if not why?
- What is the effect of the investment decision on the Total profit and GDP thereby?
- What are the views and ideas of the financial executives and customers regarding the knowledge on the various aspects of the investment practices adopted by the commercial banks today?
  What is the relationship between the various important variables like deposit, loan and advances, total investments and the net profit of the selected banks?

1.6 Objective of the Study

The major objective of the study is to evaluate the investment practices of the commercial banks in Nepal. ; and as the sample for the study we take selected commercial banks of Nepal- in the analysis using the different financial and statistical tools.

The specific objectives are as follows:

- To see the investment practices of the commercial banks in Nepal.
- To see the most influential items to the investment practices of a bank like total deposit, total investment and net profit: under which we conduct various activities like:
  - To see and evaluate the liquidity, asset management efficiency, profitability and risk position of the selected banks.
  - To make a comparative study on fund mobilization and investment practices of the banks.
- To provide suggestions, guidelines and appropriate recommendation for the betterment of the related area- on the basis of the study.

1.7 Limitations of the Study

In the context of Nepal, data availability is the major problem for any purpose that may be because of the poor document handling management or due to the wretched response from the concerned people when asked for any information. This study is simply a

partial requirement of MBS program, and the limitations faced while doing this study are as follows:

- This study concentrates only on those factors they are related with investment
- Only the available secondary data will be analyzed for the interpretation of any results and the decisions will primarily be depending on the reliability of the secondary data available.
- The sample taken for the study may not represent the whole population of the commercial banks in Nepal.
- The study is just for suggestions and no for any directions or incommode.
- The data are modified as per the study.
- Lastly, the time factor is the major limitation of this study, as this has to be completed within a short period of time.
- The truth of the research is based upon the available data from the bank.

1.8 Organization of the Study

This study is organized into five Chapters to be comprehended in the simple and easy way; as it will be carried out into different stages and procedures and the thesis will be organized in a proper sequence in the following structure:

Chapter-I: Introduction

The introduction chapter deals with the background of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

Chapter-II: Review of Literature

This chapter deals with the conceptual review, review of journals and articles and review of previous thesis which are related to this study.

Chapter- III: Research Methodology

This chapter deals with the research design, population and sample, sources of data, and data analysis tool that have been followed.

Chapter-IV: Data Presentation and Analysis

In this chapter, the collected data from the secondary sources have been presented and analyzed using various financial and statistical tools. At the end of this chapter, major findings have been drawn.

Chapter-V: Summary, Conclusion and Recommendations

This chapter presents the summary of the whole study, the conclusions of the study and the recommendations that have been provided.

CHAPTER- II
REVIEW OF LITERATURE

2.1 Introduction

This section will be dealing with the reviews of relevant previous writings and the studies along with the review of the previous related research projects and unpublished thesis, review of various related books, reports and articles; to find out whether the trend has changed or not on that related field. This will include the definition of investment, investment policy, commercial banks, important of policy, deposit & its types, loan and advancement, etc. Hence under this section we will refer to various approaches taken by other researchers and related literature on the related topic.

This chapter is basically concerned with review of literature relevant to the topic "Investment practices of Nepalese Commercial Banks in Nepal."

A literature review is a critical and in depth evaluation of previous research. Every study is very much based on past knowledge. The previous study cannot be ignored because they provide the foundation to the present study. There must be continuity in research. This continuity in research is ensured by linking the present study with past research studies. A good literature review should also have some evaluation of the quality and findings of the research. This chapter highlights the literature that is available in the books, research work, relevant study on this topic and journals and articles.

A literature review must do these things

- Be organized around and related directly to the thesis or research question you are developing
- Synthesize results into a summary of what is and is not known
- Identify areas of controversy in the literature
- Formulate questions that need further research
- Conceptual/Theoretical Review
- Conceptual framework

2.2 Concept of Commercial Bank

A financial institution that provides services such as a accepting deposits and giving business loans and offers related services. Commercial banks also allow for a variety of deposit accounts, such as checking, savings, and time deposit. These institutions are run to make a profit and owned by a group of individuals, yet some may be members of the Federal Reserve System. While commercial banks offer services to individuals, they are primarily concerned with receiving deposits and lending to businesses.

"Commercial bank is a corporation which accepts demand deposits subject tp check and makes short term loans to business enterprises, regardless of the scope of its another services" *(American Institute of Banking; 1972).*

"A commercial bank is business organization that receives and holds deposit of fund from others, makes loan or extend credits transfer fund by written order of deposits" *(Grolier Incorporate; 1984).*

In the Nepalese contest, Commercial bank Act, 2031 BS defines "A commercial bank as one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank meant for co-operative, agriculture, industries of for such specific propos" *(Commercial Bank's Act; 2031).*

"Banking institutions are inevitable for the resource mobilization and all-round developing of country. It is resource for economic development: it maintains economic confidence of various segment and extends credit to people" *(Edunuster; 1980:95).*

Commercial banks are those banks which perform all kinds of banking functions are accepting deposits, advancing loan credit creation and agency functions. They provide short term loan medium term loans and long term loans to different business houses and trading companies NRB act 2031 has define meaning of commercial banks as the banks which performs the commercial functions.

Commercial banks are the heart of our financial systems. They hold the deposits of million of persons, government and business units. They make fund available through their lending and investing activities to borrow individuals, business units and government. Banks are among the most important financial institutions in the economy and essential business in thousands of towns and cities.

The main function of commercial bank is the accumulation to the temporary idle money of general public for trade and commerce. It main functions are accept deposit and grants loan, exchange and purchase and discount bill for promissory notes exchange foreign currency to provide loan, agency function .Overseas trading services and information and other services. Commercial banks earn profit by proper mobilization of their resources. Many commercials banks have been established to provide a suitable service according to their customers.

2.1.2 Function of Commercial Bank

Accepting Deposits

A deposit account is a current account, savings account, or other type of bank account, at a banking institution that allows money to be deposited and withdrawn by the account holder. These transactions are recorded on the bank's books, and the resulting balance is recorded as a liability for the bank, and represent the amount owed by the bank to the customer. Some banks charge a fee for this service, while others may pay the customer interest on the funds deposited.

Checking Accounts

A deposit account held at a bank or other financial institution, for the purpose of securely and quickly providing frequent access to funds on demand, through a variety of different channels. Because money is available on demand these accounts are also referred to as demand accounts or demand deposit accounts.

Savings Accounts

Accounts maintained by retail banks that pay interest but cannot be used directly as money (for example, by writing a cheque). Although not as convenient to use as checking

accounts, these accounts let customers keep liquid assets while still earning a monetary return.

2.1.4 Money Market Account

A deposit account with a relatively high rate of interest, and short notice (or no notice) required for withdrawals. In the United States, it is a style of instant access deposit subject to federal savings account regulations, such as a monthly transaction limit.

Time Deposit

A money deposit at a banking institution that cannot be withdrawn for a preset fixed 'term' or period of time. When the term is over it can be withdrawn or it can be rolled over for another term. Generally speaking, the longer the term the better the yield on the money.

Advancing Loan

Commercial bank collects fund by taking all kinds of deposits and then it mobilizes by providing loan and advances. Direct loan and advances are given all type of persons against security of the borrowers or against the security of moveable and immoveable properties there is varies advancing loans.eg

- Cash credit
- Direct loan
- Overdrafts
- Short term loans
- Discounting bill of exchange
- Investment of funds

Agency Function

- The bank performs certain agency functions for its customers in return for commission. The agency services provided by the banks are:

- The bank provides facility for cheap and easy remittance of funds from place to place via instruments such as the demand drafts, mail transfers, telegraphic transfers etc.
- Purchase and sales of shares and securities on behalf of customers.
- Collections of dividends and debentures on behalf of customers.
- Payment of bills and insurance premium as per costumer's directions.
- Acting as executors and trustees of wills.
- Provision of income tax consultancy and acceptance of income tax payments of customers.
- Acting as correspondent, agent or representative of customers as well as securing documentation for air and sea passage.

2.1.4.1 General Utility Functions

A commercial bank is also functions as the general utility functions. these functions are as follows:

- Purchase and sales of foreign exchange and oversees trading services also.
- Underwriting activities and private placement of securities and safe custody of valuable goods in lockers to his customers.
- A bank issue a travelers cheques in the customers name and communicate the credit information or notice to his customers.

Credit Creation

Credit creation is the one of the important functions of the commercial banks. In order to earn profit, they accept deposits and advance loans by keeping small cash in reserve for day- to -day transactions. When a bank advances a loan, it opens an account to draw the money by cheque according to his needs. By granting a loan the bank creates or deposit *(Thapa; 2067).*

Definition of Investment

Investment is nothing but deploying our savings in a manner that ensures safety of our money and provides a sustained return to supplement our regular income (Delhi stock

exchange, January 2002). The term investment covers a wide range of activities. It is commonly known fact that an investment is only possible where there adequate savings. If all the incomes and savings are consumed to solve the problem of hand to mouth and to the other basic needs. Then there is no existence of investment. Therefore, both savings and investment are interrelated.

"Investing involves making a current commitment of funds in order to obtain and uncertain future return. It is a risky business that demands information. To process information effectively and select the best investment requires goals that are clearing cut and realistic"*(Francis; 1983).*

"Investment is any vehicle into which funds can place with the expectation that will present or increase in value and generate positives returns" *(Gitman and Joehnk; 1990).*

"Investment as commitment of funds to one or more assets that will be held over some future time period. Investment is concerned with the management of an investor's wealth. This is the sum of current income and present value of all income" *(Charles; 1991).*

"Investment is the employment of funds with the aim of achieving additional income of growth in value" *(Sing; 1992).*

"The investment objectives are to increases systematically the individual wealth, defined as assets minus liabilities. The higher the level of desired wealth the higher must be received. An investor seeking higher return must be willing to face higher level of risk." *(Cheney and Moses; 1998).*

"Investment in its broadcast sense means sacrifice of certain present value for (possible uncertain) future value" *(Shape and Alexander; 1998).*

From the above quotation, it is clear that an investment means to trade a known rupee amount today for some expected future stream of payment of benefits that exceed current outlay by an amount that will compensate the investor for the time of uncertainty involve in expected future cash flows. Thus investment is the most important function of commercial banks. It is a very challenging task for commercial banks. So a bank has or be very caution while investing their funds in various sectors. The success of a bank heavily depends upon the proper management of its investible funds. Investment management of a bank is guided by the investment policy adopted by bank. The investment policy of a bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk.

2.1.5 Investment Process

Investment process describes how an investor makes decision about what securities to invest in, how extensive these investment should be and when they should be made. Following steps are procedure for making these decisions from the basis of the investment process:

- Set investment policy.
- Perform security analysis.
- Construct a portfolio.
- Revise a portfolio.
- Evaluate the performance of portfolio *(Bhattrai; 2004).*

2.1.6 Features of Sound Lending and Investing Policy

Some of the main characteristics of sound lending and investment policies which most of the banks must consider have been given by many authors are as under:

Safety and Security

While selecting the sectors for investing the funds a bank should be very much conscious. It should never invest its funds in those securities, which are too volatile because a little difference may cause a great loss. Similarly, the businessman who is bankrupt at once or earns a million in a minute should not be financed at all. The banks invest its funds in

legal securities only. The bank should accept that type of securities, which have marketability; ascertain ability, stability & transferability and it also accept those securities, which are commercial, durable and high market prices. For the safety and security in investing funds the bank can use the investment portfolio tools also.

Liquidity

Liquidity generally refers to the cash or any asset that can be converted into cash immediately. Generally, people deposit money at the bank in different account with confidence that the bank will repay their money whenever it is needed. In order to maintain the confidence to the depositors, the bank must always be ready to meet current or short-term obligations when they become due for repayment Liquidity is the capacity of bank to pay cash against deposits. Hence the liquidity position of a bank is such an important factor.

Profitability

Commercial banks invest on those sectors from where more and more return can flow because through maximizing the returns on its investment, bank can maximize its volume of wealth. Hence the investment or granting of loan & advances by them are highly influenced by the profit margin. Generally the profit of commercial bank depends upon the interest rate of the bank, volume of loan provided, time period of loan and nature of investment on different securities. Profitability is only the term, which always motivated commercial banks to invest his money more and more.

Suitability

A banker should always know that why a customer is in need have loan. If a borrower misuse the loan granted by the bank, he will never be able to repay the loan and bank will possess heavy bad debts. Therefore, in order to avoid such circumstances advances should be allowed to select and suitable borrowers and it should demand all the essential detailed information about the scheme of the project. Bank must keep in mind the overall development plans of the nation and the credit policy up the central bank.

Diversification

The bank should be careful that while granting loan, it should not be always in one sector. To minimize risk and maximize the profit, a bank must diversify its investment on different sectors. Diversification of loan helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies. In this way, the loss can be recovered.

National Interest

In addition to its own profitability the bank should also consider the national interest. Even though the bank cannot get maximum return from such investment it should carry out its obligation towards the society and the country. The bank is required to invest on such sectors as per the government and Nepal Rastra Bank's instruction. Investment on government bonds, priority and deprived sector lending are the examples of such investments

Legality

Illegal securities will bring out many problems for the investor. A commercial bank must follow the rules and regulations as well as different directives issued by the central bank (Nepal Rastra Bank), Ministry of finance, Ministry of law and other relevant authorities while mobilizing its funds *(Metropolitan; 2007)*.

2.1.7 Source of Fund Use by Bank

Sourcing money may be done for a variety of reasons. Traditional areas of need may be for capital asset acquirement - new machinery or the construction of a new building or depot. The development of new products can be enormously costly and here again capital may be required. Normally, such developments are financed internally, whereas capital for the acquisition of machinery may come from external sources. In this day and age of tight liquidity, many banks have to look for short term capital in the way of overdraft or loans in order to provide a cash flow cushion. Interest rates can vary from banks to banks and also according to purpose.

- An introduction to the different sources of finance available to management, both internal and external
- An overview of the advantages and disadvantages of the different sources of funds
- An understanding of the factors governing the choice between different sources of funds.

A company might raise new funds from the following sources:

2.1.7.1 The Capital Markets

Capital Markets

A market in which individuals and institutions trade financial securities. Organizations/ institutions in the public and private sectors also often sell securities on the capital markets in order to raise funds. Thus, this type of market is composed of both the primary and secondary markets.

New share issues, for example, by companies acquiring a stock market listing for the first time.

Rights Issues

Loan Stock

Retained earnings

- Bank borrowing
- Government sources
- Business expansion scheme funds
- Venture capital
- Franchising

Ordinary (Equity) Shares

Ordinary shares are issued to the owners of a company. They have a nominal or 'face' value, typically of Rs 100. Ordinary shares are issued for cash, the issue price must be equal to or be more than the face value of the shares.

Deferred Ordinary Shares

Deferred share are a form of ordinary shares, which are entitled to a dividend only after a certain date or if profits rise above a certain amount. Voting rights might also differ from those attached to other ordinary shares.

Ordinary shareholders put funds into their banks:

- By paying for a new issue of shares
- Through retained profits.

Simply retaining profits, instead of paying them out in the form of dividends, offers an important, simple low-cost source of finance, although this method may not provide enough funds, for example, if the firm is seeking to grow.

New Shares Issues

A company seeking to obtain additional equity funds may be:

- An unquoted banks wishing to obtain a Stock Exchange quotation
- An unquoted banks wishing to issue new shares, but without obtaining a Stock Exchange quotation
- Banks which is already listed on the Stock Exchange wishing to issue additional new shares.

The methods by which an unquoted company can obtain a quotation on the stock market are:

- An offer for sale
- A prospectus issue
- A placing
- An introduction.

Rights Issues

A rights issue provides a way of raising new share capital by means of an offer to existing shareholders, inviting them to subscribe cash for new shares in proportion to their existing holdings.

Preference Shares

Preference shares have a fixed percentage dividend before any dividend is paid to the ordinary shareholders. As with ordinary shares a preference dividend can only be paid if sufficient distributable profits are available, although with 'cumulative' preference shares the right to an unpaid dividend is carried forward to later years. The arrears of dividend on cumulative preference shares must be paid before any dividend is paid to the ordinary shareholders.

Loan Stock

Loan stock is long-term debt capital raised by a banks for which interest is paid, usually half yearly and at a fixed rate. Holders of loan stock are therefore long-term creditors of the bank. Loan stock has a nominal value, which is the debt owed by the company, and interest is paid at a stated "coupon yield" on this amount

Debentures

Debentures are a form of loan stock, legally defined as the written acknowledgement of a debt incurred by a company, normally containing provisions about the payment of interest and the eventual repayment of capital *(www.fao.org)*.

2.1.8 Debentures with a Floating Rate of Interest

These are debentures for which the coupon rate of interest can be changed by the issuer, in accordance with changes in market rates of interest. They may be attractive to both lenders and borrowers when interest rates are volatile.

Security

Loan stock and debentures will often be secured. Security may take the form of either a fixed charge or a floating charge *(www.fao.org)*.

2.1.9 The Redemption of Loan Stock

Loan stock and debentures are usually redeemable. They are issued for a term of ten years or more, and perhaps 25 to 30 years. At the end of this period, they will "mature"

and become redeemable (at par or possibly at a value above par). Most redeemable stocks have an earliest and latest redemption date

Retained Earnings

For any company, the amount of earnings retained within the business has a direct impact on the amount of dividends. Profit re-invested as retained earnings is profit that could have been paid as a dividend. The major reasons for using retained earnings to finance new investments, rather than to pay higher dividends and then raise new equity for the new investments, are as follows:

- The management of many companies believes that retained earnings are funds which do not cost anything, although this is not true. However, it is true that the use of retained earnings as a source of funds does not lead to a payment of cash.

- The dividend policy of the company is in practice determined by the directors. From their standpoint, retained earnings are an attractive source of finance because investment projects can be undertaken without involving either the shareholders or any outsiders.

- The use of retained earnings as opposed to new shares or debentures avoids issue costs.

- The use of retained earnings avoids the possibility of a change in control resulting from an issue of new shares.

Bank Lending

Borrowings from banks are an important source of finance to companies. Bank lending is still mainly short term, although medium-term lending is quite common these days.

Short term lending may be in the form of:

- An overdraft, which a company should keep within a limit set by the bank. Interest is charged (at a variable rate) on the amount by which the company is overdrawn from day to day;

- A short-term loan, for up to three years.

Leasing

A lease is an agreement between two parties, the "lessor" and the "lessee". The lessor owns a capital asset, but allows the lessee to use it. The lessee makes payments under the terms of the lease to the lessor, for a specified period of time.

Leasing is, therefore, a form of rental. Leased assets have usually been plant and machinery, cars and commercial vehicles, but might also be computers and office equipment. There are two basic forms of lease: "operating leases" and "finance leases".

Operating Leases

Operating leases are rental agreements between the lesser and the lessee whereby:

- The lesser supplies the equipment to the lessee
- The lesser is responsible for servicing and maintaining the leased equipment
- The period of the lease is fairly short, less than the economic life of the asset, so that at the end of the lease agreement, the lesser can either
- Lease the equipment to someone else, and obtain a good rent for it, or Sell the equipment secondhand.

Finance Leases

Finance leases are lease agreements between the user of the leased asset (the lessee) and a provider of finance (the lesser) for most, or all, of the asset's expected useful life. Suppose that a company decides to obtain a company car and finance the acquisition by means of a finance lease. A car dealer will supply the car. A finance house will agree to act as lesser in a finance leasing arrangement, and so will purchase the car from the dealer and lease it to the company. The company will take possession of the car from the car dealer, and make regular payments (monthly, quarterly, six monthly or annually) to

Hire Purchase

Hire purchase is a form of installment credit. Hire purchase is similar to leasing, with the exception that ownership of the goods passes to the hire purchase customer on payment of the final credit installment, whereas a lessee never becomes the owner of the goods.

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Hire purchase agreements usually involve a finance house.

- The supplier sells the goods to the finance house.
- The supplier delivers the goods to the customer who will eventually purchase them.
- The hire purchase arrangement exists between the finance house and the customer *(www.fao.org).*

2.1.10 Government Assistance

The government provides finance to companies in cash grants and other forms of direct assistance, as part of its policy of helping to develop the national economy, especially in high technology industries and in areas of high unemployment. For example, the Indigenous Business Development Corporation of Zimbabwe (IBDC) was set up by the government to assist small indigenous businesses in that country.

Venture Capital

Venture capital is money put into a bank which may all be lost if the bank fails. A businessman starting up a new business will invest venture capital of his own, but he will probably need extra funding from a source other than his own pocket. However, the term 'venture capital' is more specifically associated with putting money, usually in return for an equity stake, into a new business, a management buy-out or a major expansion scheme.

- When a company's directors look for help from a venture capital institution, they must recognize that,
- The institution will want an equity stake in the company.
- It will need convincing that the company can be successful.
- It may want to have a representative appointed to the company's board, to look after its interests.

Franchising

Franchising is a method of expanding business on less capital than would otherwise be needed. For suitable businesses, it is an alternative to raising extra capital for growth.

Franchisors include Budget Rent-a-Car, Wimpy, Nando's Chicken and Chicken Inn *(Carter, Maconand and Cheng; 1997).*

2.2 Review of Legislative Provisions

In this section we review those legislative provisions under which the commercial banks operates. There is the specified law, rules and regulations or say a proper defined legal framework to control every financial activities of a country. In case of our country we have our central bank-NRB which provides a legal framework which controls, regulates and supervises the banking activities and its operations. NRB issues different act and clauses on its directives to guide the financial activities along with the operation. These guidelines- directly or indirectly affect the banking functions and it's decision-making. Hence all the financial institutions and the bank must be aware and pretty much familiar with the directives/rules and regulations formulated by NRB.

The commercial banks are affected by the law/legal provision of the country form its establishment – its overall operation till its dissolution. To be more specific all the commercial banks have to operate under the legislative provisions specified in the Commercial Bank Act 2031 B.S.; along with its rules and regulations under the law which helps in facilitating the smooth running of the commercial banks. The main function of any commercial bank established under this act will be mainly dealing with the exchange of money, accepting of deposits, mobilize the bank deposits by providing loan to the commercial and business activities.

NRB Directives

NRB directs the banks and other financial institutions too. Plans police, directions rules regulations from NRB are major subject to run the commercial banks. Every step of the commercial banks is always observed by NRB, as a represents of the Nepalese government. To allocate mobilize the deposit collected by commercial banks in different sectors of the different areas of the nation, the NRB as a central bank, formulates fundamental rules regulations, directives polices etc. in fact, NRB controls the over the overall activities made by the commercial banks as well as establishment or operation of

dissolution of banks. Hence, the directions rules regulations directed by nrb terms of investment by commercial banks are briefly mentioned below:

Directive- 8.3.1 investment in share and debenture of other listed company

Commercial banks should only invest on those company's shares and debenture which are listed in the Nepal stock exchange. As per the directive given in the sections it has also clearly mentioned that the investment should not more then 10% of its issued capital.

Directive- 8.3.3 investment in housing and land development

Commercial bank cannot invest core then 10% of its authorize capital in housing and land development sector. But if the investment is for its own use then commercial bank should following criteria:

- Share should be fully issued to the public
- Banks must earn profit
- Bank's capital fund should be accurate as per its directions

8.3.9 direction for extension counter of joint venture banks

- Commercial banks can't open extension in metropolitan and semi metropolitan area expect during trade, fairs festivals ceremonies celebration etc as a directed by NRB such extensions must be converted as a branch within two years otherwise must be closed.
- The extension opened can accept deposit and make payment as well as exchange of foreign currencies after the reemission from NRB.
- If the extension is opened in the areas of royal place hospitals, foreign diplomatic offices industries those extensions are not allowed to operate as a branch as mentioned in (11) *(NRB Directives; 2010).*

2.3 Review of Related Studies

2.3.1 Review of Articles

In this section, effort has been made to examine and review of some related articles in different economic journal, Word Bank discussion papers, magazines and other related books.

The basic objective of the study is to examine and evaluate the investment policy of Everest Bank Ltd. And compare the same with the NABIL and Standard Chartered Bank Nepal Ltd. to achieve these prime objectives. The following objectives are also considered in the study.

- To discuss fund mobilization and investment policy of Everest Bank Ltd. in fund based on balance sheet transaction with NABIL and Standard Chartered Bank Nepal Ltd.
- To evaluate the liquidity, efficiency, profitability and risk position.
- To evaluate the growth ratios of loans and advances, total investment with other financial variables.
- To analyze the trend of deposit utilization towards total investment and loans and advances and its projection for next five years.
- To conduct hypothetical text to find whether there is significant difference between the various ratios of Everest Bank Ltd. and the NABIL and Standard Chartered Bank Nepal Ltd.

Mau (2009), in his article, *"Back to the Basics: A Process Approach for Managing Investment Risk"* has stated that the problem of relying on the quantification of risk has produced some undesirable outcomes. The way one can manage risk is by following a procedure and systematically applying the methodology to risky situations. By incorporating the process framework demonstrated, knowledge can be gained and risk management can be improved.

When economists restrict their investigations to those explanations consistent with the paradigm, to the exclusion of simpler and more reasonable hypothesis, the tool becomes a handicap. As demonstrated, by implementing the process framework, the portfolio

manager could consider various aspects of the scenario which include quantitative as well as qualitative aspects of the risky situation. The consideration of the complete story will aid the portfolio manager in determining the appropriate risk management strategy and not strictly rely on computer models and risk quantification.

Jurek and Viceira (2009), in their article, *"Optimal Value and Growth Tilts in Long-Horizon Investments"*, have stated that the optimal dynamic rebalancing strategy is acne in the vector of state variables describing investment opportunities, with coefficients that change with investment horizon. This solution is based on an approximation to the log return on wealth which becomes increasingly accurate as the frequency of rebalancing increases, and it is exact in continuous time. An important advantage of this solution is that it can be readily implemented for investment opportunity sets with any number of assets and state variables.

On average equity investors with short horizons optimally choose investment heavily tilted toward value and away from growth, regardless of their risk aversion. Aggressive short-term investors and it optimal to hold long large positions in value stocks by large short positions in growth stocks, because the mean return spread between value and growth is positive, and their returns are highly positively correlated. Highly risk averse short-term investors hold large positions in value stocks because of their smaller return volatility and high correlation with growth. However, the optimal allocation to value decreases dramatically and correspondingly the optimal allocation to growth increases for investors with longer horizons. This effect is strongest for long-horizon, highly risk averse investors, who hold large long positions in growth stocks. The increasing portfolio demand for growth stocks across investment horizons is driven by inter temporal hedging motives. Growth stocks are better suited than value stocks to hedge against adverse changes in investment opportunities in the equity market, because they are more highly negatively correlated with changes in aggregate stock discount rates than value stocks are.

Benzoni and Goldstein (2010), in their article, *"Investment Choice over the Life-Cycle when the Stock and Labor Markets Are Co-integrated"*, have stated that conventional

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wisdom maintains that young investors should invest heavily in the stock market. Furthermore, most models suggest that labor income is more bond-like than stock-like, implying that even higher optimal proportions of wealth should be placed into holdings of the risky asset if labor income is taken into account. An agent's labor income is co-integrated with the dividend process on the market portfolio, while the individual labor income component is subject to significant permanent idiosyncratic shocks. The optimal portfolio choice for the young investor is to take a substantial short position in the risky portfolio. This occurs because in the value of the claim to labor income is effectively a highly leveraged security with large implicit exposure to the market portfolio.

If one were to incorporate housing into the investment choice problem and model the co-integration, the optimal investment in stocks would become even more negative. Further, since in the presence of co-integration the investment horizon has a dramatic impact on portfolio holdings, it would be interesting to explore within an equilibrium model the interaction of various cohorts or overlapping generations of households whose labor income is co-integrated with long-term market performance.

2.3.2 Review of Thesis
Parajuly (2009), conducted a study on *"Lending Practices: A Study on NABIL, SCB Nepal Ltd and Himalayan bank Ltd"* with the following objectives.
- Determine the liquidity position, the impact of deposits in liquidity and its effect in lending practices.
- To measure the bank lending strength.
- To analyze the portfolio behavior of lending and measuring the ratio and volume of loans and advances made in agriculture, priority and productive sectors.
- To measure the lending performances in quality, efficiency its contribution in total income.

The major findings of the study were;
- The liquidity position has revealed the mean current ratio of all the three banks is not widely varied.

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- The measurement of liquidity strength has revealed that the total liability to total assets of SCBNL has the highest ratio. The high ratio is the result of high volume of shareholder equity in the liability mix.

- Himalayan Bank Ltd. has high volume of saving and fixed deposits in comparing to current deposits resulting to low ratio of non- interest bearing deposits to total deposits ratio as compared to the mean ratio.

- The loans and advances and investment to deposits ratio has shown that NABIL Bank ltd has deployed the highest proportion of its total deposits in earning activities, which indicate that in fund mobilizing activities NABIL bank is significantly better.

- The mean volume of net assets and deposits is highest in SCBNL with moderate variation. The volume of net assets of Himalayan bank is the least due to the low share capital, reserve and surplus in its capital mix. Whereas volume contributed by Himalayan Bank is highly appreciable as compared to its net assets.

- The portfolio analysis has revealed that the flow of loans and advances in agriculture sector is the lowest priority sectors among these commercial banks. The contribution of all the banks in industrial sector is appreciable. The contribution by Himalayan Bank in industrial sector is the greatest than that of SCBNL.

Nepal (2010), conducted the study on *"Investment Policy and Analysis of Commercial Banks in Nepal: A Comparative Study of Standard Chartered Bank Ltd. With Nepal Investment Bank and Nepal Bangladesh Bank ltd."* The main objectives of his thesis are as follows:

- To discuss fund mobilization and investment policy in respect to its fee based off balance sheet transaction and fund based on balance sheet transaction.

- Evaluation of the liquidity, efficiency, profitability and risk position.

- To evaluate the growth ratios of loans and advances, total investment with financial variables

- To analyze the trends of deposits utilization towards total investment.

- For this study the financial, accounting and statistical tools have been used. Here,

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simple analytical tools such as percentage graph, Karl Pearson's coefficient of correlation, regression, and the method of least square and test of hypothesis are used.

The major findings of the study were;

- SCBL is comparatively better than NIBL and NIBL has the lowest cash and bank balance deposits.
- SCBL has good deposits collection. Has made enough investment on government securities but maintained low investment policy.
- The on balance sheet operation is average successful but the off balance sheet transaction has been strongly maintained by the SCBL.
- SCBL has successfully maintained and managed its assets towards income generating activities.
- The profitability ratio of SCBNL is comparatively higher position than the other banks.
- Thus in conclusion, SCBNL are recommended not to give much importance to the government securities and diversify the investment policy on more yield-based funds.
- SCBL is recommended to collect a large variety of deposits through schemes

Bhattarai (2011), conducted the study on *"Investment Policy of Commercial Banks with Special Reference to Nepal SBI Bank Ltd."* The main objectives of his thesis are as follows:

- To evaluate the liquidity, assets management efficiency, portfolio management and profitability position of the banks.
- To analyze deposit utilization and its relationship with total investment and net profit of the bank.
- To determine the growth rate of the bank in terms of deposits, loans and advances, investment and profitability of the bank.
- To determine the proportion of loan loss provision to total loans and advances and to evaluate the non – performing assets of the bank.

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- To determine the proportion of the investment made by bank in risky and risk free assets and evaluate off balance sheet operation of the bank.

The major findings of the study are;
- Liquidity position of bank is found to be high, thus the bank is recommended to look upon new areas of lending and investment.
- As the amount of investments made by the bank is found very little and also inconsistent during the period, the bank is has increased the investment, which help to utilize the idle funds into income generation as well as minimizes risk and also helps to maintain optimal level of liquidity.
- The bank has increased amount of investment in government securities, which helped the bank to maintain an equilibrium level of risk free an risky assets.
- The portion of OBS transactions is found decreasing in comparison to loans and advances. Nowadays most of the commercial banks are getting more benefits and increasing their earning through the enactment of fee based OBS transaction.

Chapagain (2012), conducted a study on *"A Comparative Study on Investment Policy of Nepal Bangladesh Bank Limited and Other Joint Venture bank."* On his study the major objectives were:
- To evaluate the liquidity, assets management, efficiency profitability and risk position of NB banks in comparison to NABIL and NGBL.
- To analyze the ratio relationship between loan and advances and total investment with other financial variables of Sample Banks.
- To examine the fund mobilization and investment policy of NB bank through off balance sheet and on- balance sheet activities in comparison to the other two banks.
- To study the various risk in investment
- To analyze the deposit utilization trend and its projection for next five years of sample banks.

The major findings of his study were;

- The liquidity position of NB bank is comparatively better that that of NABIL and NGBL It has the highest cash and bank balance to total deposits, cash and bank balance to current assets ratio. It has good deposits collection and has made enough loan and advances, however made the negligible amount of investment in government securities.

- The NB bank is not in better position regarding its on balance as well-as off balance activities in comparing to NABIL and NGBL. It does not follow any definite policy regarding the management of asset.

- The profitability position of NB bank is comparatively worse than that of NABIL and NGBL. Must maintain the high profit margin for the well being in future.

- NB bank has maintained high growth rate in comparison to other banks though it is not successful to make enough investment.

- The position of NB bank in regard to utilization of the fund to earn profit is not better in compare to NABIL and NGBL.

- NB bank has not provided ATM facility, credit facility, any branch bank facilities and web site etc. Though these facilities are being offered by NABIL and NGBL.

2.4 Research Gap

Very few research work has been conducted in this topic. No specific research has yet been able to go in-depth of the topic and successfully accomplished the specific objectives of the research work. All of the previous research on related to the investment analysis has mostly done financial analysis. However, this study is confined to the objective of the study and thus evaluates the investment of Selected Banks, on the basis of the investment in government securities; including Treasury bill and development, investment in corporate shares and debentures, and investment in interbank lending; including foreign bank and local licensed institutions.

CHAPTER - III
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology refers to the analysis of principles of methods, rules and techniques. It involves the systematic study of methods which are applied to analyze a specific project or study. In order to make the research organized and to increase its reliability different methodologies are adopted. Research methodology involves the collection of theories, concepts or ideas, comparative studies to different approaches and individual methods which are conduced when a research work is performed. This study covers quantitative methodology in a greater extent and also uses the descriptive part based on both technical aspects and logical aspect. This research tries to perform a well-designed quantities and qualitative research in a very clear and direct way using both financial and statistical tools

3.2 Research Design

It describes the design used in the research activity. It is purely and simply the frameworks of plan for a study that guides the collection and analysis of data. Research design is the plan, structure and strategy of investigations conceived so as to obtain answers to research questions and to control variances. A true research design is basically concerned with various steps to collect the data for analysis and draw a relevant conclusion. To achieve the objectives of the study, descriptive research design has been used. Some financial and statically tools have been applied to examine facts and to investment practices of SCBNL, NABIL & NIBL.

3.3 Population and Sample

Under this study of investment practices of Nepalese commercial banks, It describe the sampling procedure of data collection refers to the industries of the same nature and it service and product in general. Thus the total commercial bank constitutes the population of the data and the understudy constitutes the sample of the study. So from the population

of 32 commercial bank operating in Nepal, SCBNL NABIL and NIBL has been selected as sample and its data related to investment practice are comparatively studied.

3.4 Sources of Data

- The major sources of data for the study are as follows:
- Annual report of SCBNL, NABIL and NIBL.
- Websites of SCBNL, NABIL and NIBL Ltd.
- NRB Bulletins and NRB Website www.nrb.org.np
- NEPSE Report, bulletins, magazine and other published and unpublished reports and documents from various sources.

3.5 Methods of Data Presentation and Analysis

Data Presentation and Analysis are focus the part of study rang of the financial and statistical tool are used to analyze the collected data and achieve the objectives of study. The analysis of the data will be done according to pattern of data available because of limited time and resources. Simple analytical statistical tools such as percentage, karl person's coefficient of correlation are used in this study. Similarly some accounting tools such as ratio analysis and trend analysis have also been used for financial analysis. The various tools applied in this study have been briefly presented as under.

3.6 Financial Tools

Financial Analysis refers to the assessment of a business to deal with the planning, budgeting, monitoring, forecasting, and improving of all financial detail. Financial tools are used to examine the financial strength and weakness of bank in this study financial tool like ratio analysis has been used.

3.7 Ratio Analysis

Ratio analysis is a tool of scanning the financial statement of the firm. "Ratio means the numerical or quantitative relationship between two items or variables. It can be expressed as percentage fraction or a stated comparison between numbers" *(Panday, 1992:104).*

Ratio analysis is the relationship between two accounting figures expressed in mathematically. It is computed by dividing one item of relationship with the other. Management itself can use these parameters to improve the organization's performance in future. Because, truly know- how of the strengths and weakness for exploiting maximum benefits and to repair the weaknesses to meet the challenges.

Even though there are many ratios, only those financial ratios are calculated and analyzed which are related in this study. They are as follows:

3.7.1 Liquidity Ratios

It measures the ability of the firm to meet its short-term obligations, that is capacity of the firm to pay its current liabilities as and when they fall due. Thus these ratios reflect the short-term financial solvency of a firm. A firm should ensure that it does not suffer from lack of liquidity. The failure to meet obligations on due time may result in bad credit image, loss of creditors confidence, and even in legal proceedings against the firm on the other hand very high degree of liquidity is also not desirable since it would imply that funds are idle and earn nothing. So therefore it is necessary to strike a proper balance between liquidity and lack of liquidity. The following ratios are evaluated under liquidity ratios.

a) Current Ratio

A ratio between current assets and current liabilities is known as current ratio. It shows the relationship between current assets and current liabilities. Current Ratio is one of the best known measures of financial strength. Cash ratio measure the ability of a business to meet short term obligations. It measures to the extent which current obligations can be paid from cash or near cash assets. The current ratio measures the short-term solvency of the firm. It establishes the relationship between current assets and current liabilities. It is calculated by dividing current assets by current liabilities.

Mathematically it is represented as:

$$\text{Current Ratio} = \frac{\textit{Total Current Assets}}{\textit{Total Current Liabilities}}$$

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Current assets include cash and bank balances, marketable securities, inventory, and debtors, excluding provisions for bad debts and doubtful debtors, bills receivables and prepaid expenses. Current liabilities includes sundry creditors, bills payable, short- term loans, income-tax liability, accrued expenses and dividends payable.

Higher the current ratio better is the liquidity position. The widely accepted standard of current ratio is 2:1 but accurate standard depends on circumstances in case of seasonal business ratio.

b) Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)

Cash and bank balances are the most liquid current assets. This ratio measures the percentage of most liquid fund with the bank to make immediate payment to the depositor. This ratio is calculated by dividing the cash and bank balance by the amount of total deposits. Mathematically it is expressed as,

$$\text{CRR Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

Hence, cash and bank balance includes cash on hand, foreign cash on hand, cheques and other cash items, balance with domestic and abroad banks where as the total deposits include current deposits, saving deposits, fixed deposits, money at call and short term notice and other deposits. A cash reserve ratio (or CRR) is the percentage of bank reserves to deposits and notes. It is also known as the cash asset ratio or liquidity ratio. As per NRB regulation every commercial banks is to maintain its CRR 6% per annum.

c) Cash and Bank Balance to Current Assets Ratio

This ratio measures the proportion of most liquid assets i.e. cash and balance among the total current assets of the bank. Higher ratio shows the bank ability to meet its demand for cash. This ratio is calculated by dividing cash and bank balance by current assets. Mathematically it is expressed as,

Cash and Bank Balance to Current Assets Ratio $= \dfrac{\text{Cash and Bank Balance}}{\text{Current Assets}}$

d) Investment on Government Securities to Current Assets Ratio

Investment on government securities includes treasury bills and development bonds etc. This ratio is calculated to find out the percentage of current assets invested in government securities. This ratio is calculated by dividing investment made on government securities by current assets,

Mathematically it is expressed as,

Investment on Govt. Securities to Current Assets Ratio

$= \dfrac{\text{Investment on Government Securities}}{\text{Current Assets}}$

e) Loan and Advances to Current Assets Ratio

Loan and advances to current asset ratio shows the percentage of loan and advances in the total current assets. Where loan & advances include loans, advances, cash credit, local and foreign bill purchased and discounted etc. This ratio can be calculated by dividing loans and advances by current assets.

Mathematically it is expressed as,

Loan and Advances to Current Assets Ratio $= \dfrac{\text{Loan and Advances}}{\text{Current Assets}}$

3.7.2 Assets Management Ratios

Asset management ratios measure the ability of assets to generate revenues or earnings. Asset Management Ratios attempt to measure the firm's success in managing its assets to generate sales. For example, these ratios can provide insight into the success of the firm's credit policy and inventory management. These ratios are also known as Activity or Turnover Ratios. The following ratios are used under this asset management ratio.

a)Loan and Advances to Total Deposit Ratio

This ratio is calculated to find out that which banks are able to utilizing their total deposits on loan and advances for profit generating purpose. This ratio can be obtained by dividing loan and advances by total deposits, which can be states as:

$$\text{Loan and Advances to Total Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Total Deposit}}$$

b)Total Investment to Total Deposit Ratio

This ratio implies the utilization of firm's deposit on investment in government securities and share debentures of other companies and bank. This ratio can be calculated by dividing total investment by total deposit, which can be states as

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}}$$

Hence, total investment consist investment on government securities, investment on debenture and bonds, share in subsidiary companies, share in other companies and other investment.

c) Loan and Advances to Working Fund Ratio

Loan and advances indicates the ability of any bank to canalize its deposits in the form of loan and advances to earn high return. This ratio is computed by dividing loan and advances by total working fund, which can be states as,

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loan and Advances}}{\text{Working Fund Ratio}}$$

Where, Total working fund consists current assets, net fixed assets, loan for development banks and other miscellaneous assets.

d)Investment on Government Securities to Total Working Fund Ratio

This ratio shows that banks investment on government securities in comparison to the total working fund. This ratio is calculated by dividing investment on government securities by total working fund, which can be states as,

Investment on Govt. Securities to Total Working Fund Ratio

$$= \frac{\text{Interest on Government Securities}}{\text{Working Fund Ratio}}$$

Hence, Investment on government securities includes treasury bills and development bonds etc.

E) Investment on Shares and Debentures to Total Working Fund Ratio

This ratio shows the banks investment in shares and debenture of the subsidiary and other companies. This ratio can be computed by dividing investment on shares and debentures by total working fund, which can be states as,

Investment on Shares & Debentures to Total Working Fund Ratio

$$= \frac{\text{Investment on Shares and Debentures}}{\text{Working Fund Ratio}}$$

Where, Numerator includes investment on debentures bonds and shares of the other companies.

3.7.3 Profitability Ratios

Profit is the difference between revenues and expenses over a period of time. A company should earn profit to survive and grow over a long period of time, and it will have no future if it fails to make sufficient profits. Therefore, the financial manager should continuously evaluate the efficiency of its company in terms of profits. The profitability ratios are calculated to measure the operating efficiency of a company. It is the indicator of the financial performance of any institution. This implies that higher the profitability ratio, better the financial performance of the bank and vice versa.

The following ratios are taken into account under this heading.

a) Return on Total Working Ratio

This ratio measures the overall profitability of all working funds i.e. total assets. A firm has to earn satisfactory return on assets or working fund for its survival. This ratio is calculated by dividing net profit by total working fund. This can be express,

$$\text{Return on Total Working Fund Ratio} = \frac{\text{Net Profit}}{\text{Working Fund Ratio}}$$

b) Return on Loan & Advances Ratio

This ratio indicates how efficiently the bank has employed its resources in the form of loan and advances. This ratio is computed by dividing net profit by loan & advances. This can be expressed as,

$$\text{Return on Loan \& Advances Ratio} = \frac{\text{Net Profit}}{\text{Loan and Advance}}$$

c) Return on Total Deposit

The ratio of return on Total deposit measures the capacity of bank to generate profit from its investment on total deposit. In other words, return on total deposit is the contribution of total deposit to net profit after tax. So this ratio is the proportion of return from total deposit and it is calculated as follows.

$$\text{Return on Total Deposit} = \frac{\text{Net Profit After Tax}}{\text{Total Deposit}}$$

d) Return on Investment

The ratio of return on investment is useful in measuring the profitability of all financial resources invested in the banks. The formula for the return on investment given in the following manner:

$$\text{Return on Investment} = \frac{\text{Net Profit}}{\text{Investment}}$$

3.8 Risk Ratios

Risk taking is the prime business of bank's investment management. It increases effectiveness and profitability of the bank. These, ratio indicate the amount of risk associated with the various banking operations, which ultimately influences the bank investment policy. The following ratios are taken into account under this heading.

a) Liquidity Risk Ratio

The Liquidity risk ratio measures the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the depositor's demand for cash. Higher the ratio, lower is the liquid risk. Dividing cash & bank balance calculate this ratio by total deposits. This can be mentioned as,

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash and Bank Balance}}{\text{Total Deposit}}$$

b) Credit Risk Ratio

Credit risk is the probability that a borrower will fail to make required payments of principal and interest over the life of the loan. Risk plays an important role in debt contracting. Credit risk ratios measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition, credit risk ratio is expressed as the percentage of non-performing loan to total loan & advances. This ratio is calculated by dividing total loan and advances by total assets. This can be mentioned as,

$$\text{Credit Risk Ratio} = \frac{\text{Total Loan and Advance}}{\text{Total Assets}}$$

c) Capital Risk Ratio

The capital risk ratios of a bank indicate how much asset values may decline before the position of depositors and other creditors jeopardize. The capital risk is directly related to the return on equity (ROE). Higher the ratio, low is the capital risk. This ratio is

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computed by dividing capital (Paid up Capital + Reserves) by risk- weighted assets as computed under BASLE committee's formula.

This can be mentioned as,

$$\text{Capital Risk Ratio} = \frac{\text{Capital (Paid up+Reserves)}}{\text{Risk Weighted Assets}}$$

3.9 Growth Ratios total Investment

Growth ratios measure how well the firm is maintaining its economic and financial position. It is directly related to the fund mobilization an investment management of a commercial bank. The higher growth rate indicates better performance of concerned bank and vice versa.

3.10 Statistical Tools

Some important statistical tools are used to achieve the objective of this study. In this study, statistical tools such as Mean, Standard Deviation, Co-efficient of correlation, trend analysis, Probable Error and Test of Hypothesis have been used which are as follows:

3.10.1 Mean

Average return is defined as the sum of observation divided by the no of observation. It represents the entire data by single value. It provide the gist and gives the bird's eye view of the huge mass of unwieldy numerical data. It is calculate

3.10.2 Standard Deviation

A measure of the dispersion of a set of data from its mean. The higher value standard deviation, the higher the variability and lower the of standard deviation , lower the variability. The concept of standard deviation was introduced by Karl Pearson in 1823. Standard deviation is calculated with the help of the following formula.

Standard Deviation (S.D) $= \sqrt{\dfrac{\sum X - \sum X^2}{N}}$

3.10.3 Co-efficient of Variation (C.V)

Standard deviation is only an absolute measure of dispersion, depending upon the units of measurement. The relative measure of dispersion based on standard deviation is called co-efficient of variation. Which is defined as the ratio of S. D to the mean expressed in percent. The small value of C.V means high degree of consistency in the observed distribution and vice versa.

Which is .calculated as:

C.V= $\dfrac{\sigma}{\overline{X}} \times 100$

3.10.4 Co- efficient of Correlation Analysis (r)

The Co-efficient of correlation determines the relationship between the two or more variables. In the case of highly correlated variables, the effect on one variable may have effect on other correlated variable when two elements have zero correlation with each other they are unrelated in any way and have positive correlation implies positive covariance. under this topic, Karl Pearson's co-efficient of correlation has been used to find out the relationship between the following variables.

$\mathbf{r} = \dfrac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}}$

- Co-efficient of correlation between deposit and loan & advances.
- Co-efficient of correlation between deposit and total investment.
- Co-efficient of correlation between Total investment and net profit

These tools analyze the relationship between these variables and help the banks to make appropriate policy regarding deposit collection, fund utilization (loan & advances and investments) and maximization of profit.

3.10.5 Probable Error (P E)

Using probable error, we can measure whether the calculated correlation coefficient is reliable and significant or not. PE can be computed by using the following formula:

Where,

P.E. = Probable error of correlation coefficient

r = Correlation coefficient

n = Number of observations

3.10.6 Trend Analysis of Total Investment

This topic analyzes the trend of total investment to total deposit ratio of NABIL, NIBL and SCBL from 2007 to 2011 and makes the forecast for the next five years.

Research methodology and the various financial and statistical tools discussed above have been used in the next chapter to analyze and interpret the data regarding the NABIL, NIBL and SCBL for the study period from Fiscal year 2007 to 2011.

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

Data Presentation and Analysis are focus the part of study rang of the financial and statistical tool are used to analyze the collected data and achieve the objectives of study. The analysis of the data will be done according to pattern of data available because of limited time and resources. Simple analytical statistical tools such as percentage, karl person's coefficient of correlation, regression, the method of least square and test of hypothesis are used in this study. Similarly some accounting tools such as ratio analysis and trend analysis have also been used for financial analysis. The various tools applied in this study have been briefly presented as under.

4.1 Financial Tools

Here we have the analysis of the data collected have a conclusion with the help of few financial tools

4.1.1 Ratio Analysis

Ratio analysis is a tool of scanning the financial statement of the firm. "Ratio means the numerical or quantitative relationship between two items or variables. It can be expressed as percentage fraction or a stated comparison between numbers" *(Panday; 1992).*

Even though there are many ratios, only those financial ratios are calculated and analyzed which are related in this study. They are as follows:

4.1.1.1 Liquidity Ratios

Few chosen liquidity ratios suitable for our study purpose on the sample banks from fiscal year 2007 to 2011 are as follows:

i) Current Ratio

Current ratio indicates the ability of a bank to meet its current obligation. Standard of current ratio is 2:1 for banking and seasonal business current ratio is 2:1 and so on.

We have,

$$\text{Current Ratio} = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

Calculation of Mean, Standard Deviation and Coefficient of Variation Current Ratios.

Current ratios of related banks from the fiscal year 2007 to 2011 are given below.

Table 4.1

Current Ratio

(times)

Year	SCBNL	NABIL	NIBL
2007	1.073	1.084	1.044
2008	1.079	1.064	1.048
2009	1.079	1.082	1.065
2010	1.097	1.083	1.065
2011	1.091	1.078	1.073
Mean	1.084	1.078	1.059
S.D	0.045	0.0072	0.023
C.V (%)	4.16	0.668	2.167

Source: Appendix 1

The above table shows that SCBNL has higher ratio 1.097 in 2009 and lowest ratio 1.073 in year 2007. Similarly NABIL and NIBL have highest ratios 1.083 and 1.073 in year 2007 and 2011. The lowest ratios are 1.064 and 1.044 in the year 2008 and 2007.

In the study of mean ratio SCBNL has higher mean then nabil and nibl i.e 1.084>1.078 and 1.075 respectively. The coefficient of variation of NABIL has 0.668 %which is less then the coefficient of variation of SCBNLl and NIBL i.e 4.16% and 2.17% respectively. It means, NABIL is more stable and consistent in case of this ratio.

Though the standard of current ratio should be 2:1, the conventional measure of liquidity is not applicable in banking business. Banking business holds big portion of deposits as a core deposits and this deposits remains all the time through the years. This core deposits forms the fixed liability of bank through it is current in nature so the ratio maintained by the bank at the level of around 1;1 can be regarded as sound liquidity position.

ii) Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)

Cash and bank balance is said to be the first defense of every banks. The ratio between cash and the bank balance and total deposit measure the ability of the bank to meet the unanticipated cash and all types of deposits. Higher the ratio, the greater will be the ability to meet sudden demand of deposit. But every high ratio is not desirable since bank to pay interest on deposits. This will also maximize the cost of fund to the bank.

Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)

$$= \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

Table 4.2

Cash and Bank Balance to Total Deposit Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	16.23	8.41	11.40
2008	8.23	14.49	10.90
2009	18.92	10.51	16.96
2010	10.23	9.74	15.09
2011	11.03	9.52	12.15
Mean	12.928	10.534	13.32
S.D.	4.006	2.107	2.34
C.V.	30.85	20	17.6

Sources: Appendix 2

In above table shows that the cash and bank balance to total deposit ratio of the selected commercial banks.

The above table shows that SCBNL has higher ratio 18.92% in 2009 and lowest ratio 18.23% in year 2008. Similarly NABIL and NIBL have highest ratios 14.49% and 16.96% in year 2008 and 209. The lowest ratios are 8.41% and 10.90% in the   year 2007 and 2008.

In average, NIBL has maintained higher cash & bank balance to total deposit ratio than other banks i.e. 13.32. It states that cash and bank balance in liquidity position of NIBL is higher than other banks. Standard deviation ratio of Nabil are less than that of other two commercial banks. C.V. ratio of SCBNL, NABIL and NIBL are 30.8%5, 20% and 17.6% respectively.

From the above analysis it can be concluded that NIBL's ratio are more consistent and more stable than that of SCBNL &NABIL. And nibl maintained the cash position from deposit is better than others.

iii) Cash and Bank Balance to Current Assets Ratio

This ratio measures the proportion of most liquid assets i.e. cash and balance among the total current assets of the bank. Higher ratio shows the bank ability to meet its demand for cash.

This ratio is calculated by dividing cash and bank balance by current assets. Mathematically it is expressed as,

Cash and Bank Balance to Current Assets Ratio $= \dfrac{\text{Cash and Bank Balance}}{\text{Current Assets}}$

Table 4.3

Cash and Bank Balance to Current Assets Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	13.54	6.68	10.04
2008	12.54	12.18	9.57
2009	16.49	8.66	14.80
2010	8.77	8.39	12.95
2011	9.38	7.86	10.09
Mean	12.144	8.75	11.51
S.D.	2.83	1.84	1.82
C.V.	23.3	21.06	15.84

Source: Appendix 3

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Above table shows the total investment to total deposit ratios of SCBNL NABIL and NIBL have fluctuating trend of ratios under five years of study period.

In the study period the highest ratio SCBNL 16.49% in 2009 and lowest ratio is 8.77% in 2010. Similarly NABIL and NIBL have highest ratio is 12.18% and 14.80% in 2008 and 2009. The lowest ratio is 6.68% and 9.57% in year 2007 and 2008 respectively.

In the study of mean ratio SCBNL has higher mean 12.144% then NABIL and NIBL i.e 8.75% and 11.51% respectively. S d and CV of NIBL has less then SCBNL and NABIL i.e 15.84% < 23.3 and 21.06% respectively.

From the above analysis we can conclude that liquidity position of NIBL bank is lesser than SCBNL and NABIL. But NIBL has higher consistency. SCBNL has higher liquidity position than NABIL and Investment but it has lower consistency. The table also reveals that NIBL has utilized its funds more efficiently.

iv) Investment on Government Securities to current Assets Ratio

Investment on government securities includes treasury bills and development bonds etc. This ratio is calculated to find out the percentage of current assets invested in government securities. This ratio is calculated by dividing investment made on government securities by current assets,

Mathematically it is expressed as,

Investment on govt. securities to current assets ratio

$$= \frac{\text{Investment on Government Securities}}{\text{Current Assets}}$$

Table 4.4

Investment on Government Securities to Current Assets Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	24.11	16.36	11.71
2008	24.03	12.24	8.43
2009	24.29	8.18	4.73
2010	20.80	14.75	7.20
2011	21.40	10.85	6.02
Mean	22.926	12.476	7.618
S.D.	1.51	2.88	2.39
C.V(%)	6.6	23.07	31.32

Source: Appendix 4

The above table shows that investment in government securities to current assets ratio of SCBNL NABIL and NIBL is in fluctuation trend from year 2007 to 2011.

In the case of SCBNL has higher ratio 24.29% in 2009 and lowest ratio 20.80% in year 2010. Similarly NABIL and NIBL have highest ratios 16.36% and 11.71% in year same 2007 and lowest ratios are 8.18% and 4.73% in the same year 2009.

The mean ratio of SCBNL is higher than NABIL and NIBL i.e 22.93%>12.47 and 7.62% it means that SCBNL has invested it's as much as portion of its current assets on government securities than that of NABIL and NIBL. The coefficient of variation of NIBL is higher in comparison to SCBNL and NABIL bank.

Lastly it can be conclude that SCBNL has invested it's more of portion assets as government

securities than other banks But NIBL liquidity portion is slightly poor than SCBNL and NABIL bank on view point of investment of government securities.

v) Loan and Advances to Current Assets Ratio

Loan and advances to current asset ratio shows the percentage of loan and advances in the total current assets. Where loan & advances include loans, advances, cash credit, local and foreign bill purchased and discounted etc. This ratio can be calculated by dividing loans and advances by current assets.

Mathematically it is expressed as,

Loan and Advances to Current Assets Ratio $= \dfrac{\text{Loan and Advances}}{\text{Current Assets}}$

Table 4.5

Loan and Advances to Current Assets Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	35.71	53.31	62.86
2008	39.43	56.67	69.20
2009	31.86	61.40	67.75
2010	38.85	61.13	69.72
2011	42.39	64.42	43.43
Mean	37.65	59.39	68.6
S.D.	3.59	3.918	3.429
CV	9.5	6.6	5

Source: Appendix 5

The above table shows that loan and advance to current assets ratio of SCBNL NABIL and NIBL is

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in fluctuation trend from fiscal year 2007 to 2011.

In the case of NIBL has higher ratio 42.39% in 2011 and lowest ratio 31.86% in year 2009. Similarly NABIL and NIBL have highest ratios 64.42% and 69.72% in year 2011 and 2010. The lowest ratios are 53.31% and 43.43% in the year 2007 and 2011.

Mean value of this ratio of SCBNL is 37.65%, which is less than that of SCBNL & NIBL i.e. 37.65 %< 59.39% & 68.6%. But S D and coefficient of variation is slightly greater than NABIL and NIBL i.e.9.5%>6.6 %and 5%.

This analysis shows that SCBNL use to provide less loan & advances in comparison of NABIL & NIBLl. And SCBNL has lower consistency then NABILl and NIBL.

4.1.1.2 Assets Management Ratios

Assets management ratio measures the efficiency of the bank to manage its assets in profitable and satisfactory manner. A commercial bank must manage its assets properly to earn high profit. Under this chapter following ratios are studied

i) Loan and Advances to Total Deposit Ratio

This ratio measures the extent to which the banks are successful to mobilize their total deposit on loan and advances

Loan and Advances to Total Deposit Ratio $= \dfrac{\text{Loan and Advances}}{\text{Total Deposit}}$

Table 4.6

Loan and Advance to Total Deposit

(in %)

Year	SCBNL	NABIL	NIBL
2007	42.77	67.08	71.39
2008	44.9	67.41	78.79
2009	36.57	74.48	77.63
2010	45.28	71.01	81.29
2011	49.8	78.09	88.45
Mean	43.86	71.61	79.50
S.D.	4.28	4.21	5.53
CV	9.76	5.88	6.955

Source: Appendix 6

Above table shows the loan and advance to total deposit ratios of SCBNL nabil and nibl have fluctuating trend of ratios under five years of study period.

In the study period SCBNL, NABIL & NIBL's highest ratio are 49.8% 78.09% and 88.48% in same year 2011 and have lowest ratio are 42.77,68.08&71.39 in same year 2007 respectively.

In the study of mean ratio NIBL has higher mean 79.50 then SCBNL and NABIL i.e 43.86 % and 71.76% respectively. So NIBL has mobilize and use its deposits on investment better then SCBNL and NABIL.

The coefficient of variation of NABIL has 5.88% which is less then the coefficient of variation of SCBNL and NIBL i.e 9.76 and 6.955% respectively. It means, NABIL is more stable and consistent in case of this ratio. It is concluded that NABIL is more successful in mobilizing of its deposit on investment then NABIL and NIBL.

ii) Total Investment to Total Deposit Ratio

This ratio implies the utilization of firm's deposit on investment in government securities and share debentures of other companies and bank.

This ratio can be calculated by dividing total investment by total deposit. Which can be states as,

Total Investment to Total Deposit Ratio= $\dfrac{\text{Total Investment}}{\text{Total Deposit}}$

Table 4.7

Total Investment to Total Deposit Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	55.05	38.35	26.62
2008	46.74	31.22	19.97
2009	51.96	29.12	14.78
2010	56.40	29.38	15.76
2011	49.97	26.77	14.40
Mean	52.024	30.97	18.31
SD	3.48	3.95	4.61
CV	6.7	12.8	25.2

Source: Appendix 7

Above table shows the total investment to total deposit ratios of SCBNL NABIL and NIBL have fluctuating trend of ratios under five years of study period.

In the study period SCBNL has 56.40% the highest ratio in year 2010 and lowest ratio has 46.74% in year 2008. Similarly NABIL and NIBL have 38.35% and 26.26% highest ratio in same year 2007 and lowest ratio are 26.77% and 144.40% in same year 2011.

In the study of mean ratio SCBNL has higher mean 52.024% then NABIL and NIBL i.e 30.97% and 18.31% respectively. So Nabil has mobilize and use its deposits on investment better then NABIL and NIBL.

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The coefficient of variation of SCBNL has 6.7% which is less then the coefficient of variation of NABIL and NIBL i.e 12.8% and 25.2% respectively. It means, SCBNL is more stable and consistent in case of this ratio. It is concluded that SCBNL is more successful in mobilizing of its deposit on investment then NABIL and NIBL.

iii) Loan and Advances to Working Fund Ratio

Loan and advances indicates the ability of any bank to canalize its deposits in the form of loan and advances to earn high return. This ratio is computed by dividing loan and advances by total working fund, which can be states as,

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loan and Advances}}{\text{Working Fund Ratio}}$$

Table 4.8

Loan and Advances to Working Fund Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	35.20	52.79	61.12
2008	38.92	55.91	67.5
2009	31.48	60.55	66.35
2010	38.37	60.25	68.32
2011	41.82	63.41	71.99
MEAN	37.158	58.58	67.05
S D	3.532	3.76	3.52
C.V	9.50	6.42	6.008

Sources: Appendix 8

In the above table describes the loan and advance to total working fund ratio of SCBN and NABIL in fluctuating trend and NIBL have increasing trend.

The highest ratio SCBNL 41.82% in 2011 and lowest ratio is 31.48% in 2009. Similarly NABIL and NIBL highest ratio is 63.41% and 71.99% in same year 2011. And lowest ratio is 52.79% and 61.12% in year in year 2007 respectively.

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In the study of Mean ratio NIBL is maintain highest ratio then SCBNL and NABIL. The mean ratio of NIBL is 67.05 but SCBNL and NABIL have 37.158% and 58.58% respectively. So the ratio of NIBL has better position of loan and advance to total working fund ratio then SCBNL and NABIL. On the basis of co-efficient of variation SCBNL has maintained lowest c v is 6.008% which can show the NIBL has more consistency then SCBNL and NABIL i.e 9.50% 6.42% respectively.

iv)   Investment on Government Securities to Total Working Fund Ratio

This ratio shows that banks investment on government securities in comparison to the total working fund.

Which can be states as,

Investment on Govt. Securities to Total Working Fund Ratio

$$= \frac{\text{Interest on Govt. Securities}}{\text{Working Fund Ratio}}$$

Table 4.9

Investment on Government Securities to Total Working Fund Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	23.77	16.20	11.40
2008	23.71	12.08	7.85
2009	23.99	8.07	4.63
2010	14.04	14.54	7.06
2011	21.11	10.68	5.91
Mean	21.32	12.314	7.37
SD	3.79	2.86	2.29
CV	17.8	23.196	31.06

Source: Appendix 9

In above table shows the investment on government securities to total working fund ratio of SCBNL NABIL and NIBL in fluctuating trend.

The highest ratio SCBNL is 23.99% in 2009 and lowest ratio is 14.04% in 2009. Similarly NABIL and NIBL highest ratio is 16.20% and 11.40% in same year 2007. And lowest ratio is 8.07% and 5.91% in same year 2009 respectively.

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In the study of mean ratio SCBNL has higher mean 21.32% then NANIL and NIBL i.e 21.31% and 7.37% respectively. It indicates that SCBNL has success to better mobilizing of funds as investment on government securities.

On the basis of co-efficient of variation SCBNL has maintained lowest c v is 17.8% which can show the NIBL has more consistency then SCBNL and NABIL i.e 9.50% 6.42% respectively. After analysis it is clear that the investment policy of SCBNL is in better position in comparison to NABIL and NIBL..

v) Investment on Shares and Debentures to Total Working Fund Ratio

This ratio shows the banks investment in shares and debenture of the subsidiary and other companies. This ratio can be computed by dividing investment on shares and debentures by total working fund, which can be states as,

Investment on Shares & Debentures to Total Working Fund Ratio

$$= \frac{\text{Investment on Shares and Debentures}}{\text{Working Fund Ratio}}$$

Table 4.10

Investment on Shares and Debentures to Total Working Fund Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	21.54	12.21	11.14
2008	16.78	13.19	9.26
2009	20.71	15.01	8.92
2010	27.23	10.04	6.20
2011	20.71	10.74	5.82
MEAN	21.39	12.31	8.32
SD	3.36	1.77	2.08
CV	15.7	14.38	24.94

Source: Appendix 10

Above table shows the investment on share and debenture to total working ratio of SCBNL Nabil and NIBL have fluctuating trend of ratios under five years of study period.

The highest ratio SCBNL is 27.23% in 2010 and lowest ratio is 16.78% in 2008. Similarly NANIL and NIBL highest ratio is 15.01% and 11.14% in same year 2009 and 2007. The lowest ratio is 10.04% and 5.82% in year 2010 and 2011 respectively.

In the study of mean ratio SCBNL has 21.39% which is higher then NABIL and NIBL i.e 12.31% and 8.32% respectively. SCBNL has mobilize and use its deposits on investment better then NABIL and NIBL.

The coefficient of variation of NABIL has 14.38% which is less then the coefficient of variation of SCBNL and NIBL i.e 15.7% and 24.94% respectively. It can be concluded that nabilL has invested more portion of its total working fund on shares & debentures than other two banks. And also nabil is more consistent and homogeneous than other banks.

4.1.1.3 Profitability Ratios

Profit is the difference between revenues and expenses over a period of time. This implies that higher the profitability ratio, better the financial performance of the bank and vice versa.

The following ratios are taken into account under this heading.

i)   Return on Total Assets Ratio

This ratio measures the overall profitability of all working funds i.e. total assets. A firm has to earn satisfactory return on assets or working fund for its survival. This ratio is calculated by dividing net profit by total working fund.

This can be express,

Return on Total Assets Ratio $= \dfrac{\text{Net Profit}}{\text{Working Fund Ratio}}$

Table 4.11

Return on Total Assets Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	2.31	2.31	1.97
2008	2.37	1.95	2.07
2009	2.47	3.54	1.80
2010	2.62	3.29	2.39
2011	1.3	1.83	1.79
Mean	2.21	2.58	2.004
S.D.	0.886	0.7	0.45
CV	40	27	22

Source: Appendix 11

In the comparative table shows that profitability of banks are fluctuating trend. SCBNL has higher ratio 2.62% in 2010 and lowest ratio 1.30% in year 2011. Similarly NABIL and NIBL have highest ratios 3.29% and 2.32% in year same 2010 and lowest ratios are 1.83% and 1.79 in same year 2011.

In the study of mean, NABIL has 2.584% highest mean which is greater then SCBNL and NIBL i.e 2.214% and 2.004 respectively so NABIL bank is more successful to earn profit on total assets.

The comparison of c v of five study period the co-efficient of variation of NIBL is 22% is less then the co-efficient of variation of SCBNL and NABIL are 40% and 27% respectively. So NIBL has strong position in the earning capacity by utilizing available resources then other bank.

ii) Return on Loan & Advances Ratio

This ratio indicates how efficiently the bank has employed its resources in the form of loan and advances. This ratio is computed by dividing net profit by loan & advances.

This can be expressed as,

Return on Loan & Advances Ratio = $\dfrac{NetProfit}{Loan\ and\ Advances}$

Table 4.12

Return on Loan & Advances Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	6.57	4.38	3.21
2008	6.10	3.49	3.06
2009	7.84	5.84	2.71
2010	6.82	5.47	3.50
2011	3.11	2.88	2.49
Mean	6.08	4.41	3.01
SD	1.59	1.13	0.37
CV	26.22	25.57	12.28

Source: Appendix 12

In above comparative table it shows it that the ratio of SCBNL, NABIL & NIBL are in fluctuating trend. During the study period, the highest ratio of SCBNL is 7.84% in year 2009 and lowest ratio of SCBNL is 3.11 in year 2011, similarly in the case of NABIL, the highest ratio in 5.84 in year 2009 &the lowest ratio is 3.50 in year 2010, & lowest ratio is 2.49 in year 2011.

In the table mean of SCBNL is highest then that of NABIL & NIBL i.e. 6.08 % > 4.41 & 3.014 %: it means SCBNL has been more successful in maintaining its higher return on loan & advances then NABIL& NIBL

On the bank of co efficient of NIBL is 12.28 which is lower than SCBNL & NABIL. Which is strong profit earning capacity of NIBL by utilizing available resources.

iii) Return on Investment

This ratio measures how well the banks have invested its resources to generate profit and to indicate percentage of return from it higher ratio represents higher efficiency of banks. Return on investment of SCBNL NABIL and NIBL are presented below.

Table 4.13

Return on Total Investment Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	5,10	7.66	8.62
2008	5.86	7.53	12.08
2009	5.52	14.94	13.26
2010	5.48	13.21	18.01
2011	3.10	8.39	15.29
Mean	5.02	10.35	13.54
SD	0.99	3.14	3.14
CV	19.74	30.36	23.35

Source: Appendix 13

Above table the return on total deposit ratio of the selected commercial banks. The return on total investment ratio of the banks is fluctuating over the study period. The highest return on total deposit ratio of SCBNL is 5.86 and lowest ratio is 3.10 in the   year 2008 and 2011 respectively.

Similarly, the high return on total investment ratio of NABIL is 14.96 and lowest ratio is 7.53 in the year 2009 and 2008 respectively as well as NIBL's highest return on total investment ratio is 18.01 and lowest ratio is 8.62 in the year 2010 and 2007 respectively. The mean of return on total investment ratio of NIBL is the highest i.e. 13.74 than that of two other banks i.e. SCBNL and NABIL. Standard deviation of return on total investment ratio of SCBNL, NABIL & NIBL are 0.99, 3.14 and 0.3.14 respectively.

Coefficient of variation of SCBNL is 19.74%, NABIL is 30.36% and NIBL is 23.35%. SCBNL'S ratio are less variability then   NABIL& NIBL. To make bank's profitability and return from total investment NIBL is satisfactory profit the banks should really make an effort in total investment, its collect efficiently to generate adequate level of return.

iv) Return on Total Deposit

Total deposit of the bank is its creditor ship. The prior objective of the bank is collected more deposit and utilization in various sectors i.e. to earn high profit there by maximizing return on its total deposits. This ratio reflects the extent to which the banks have been successful in mobilizing its total deposits.

Table 4.14

Return on Total Deposit Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	2.18	2.94	2.29
2008	2.74	2.38	2.41
2009	2.87	4.35	2.10
2010	3.09	3.88	2.84
2011	1.55	2.25	2.20
Mean	2.60	3.17	2.37
SD	0.56	0.84	0.26
CV	21.65	26.55	10.86

Source: Appendix 14

Above table the return on total deposit ratio of the selected commercial banks. The return on total deposit ratio of the banks is fluctuating over the study period. The highest return on total deposit ratio of SCBNL is 3.09% and lowest ratio is 1.55% in the year 2010 and 2011 respectively.

Similarly, the highest return on total deposit ratio of NABIL is 3.88 and lowest ratio is 2.25% in the year 2010 and 2011 respectively as well as NIBL's highest return on total deposit ratio is 2.84% and lowest ratio is 2.20% in the fiscal year 2010 and 2011 respectively.

The mean of return on total deposit ratio of NABIL is the highest i.e. 3.17% than that of two other banks i.e. SCBNL and NIBL. Standard deviation of return on total deposit ratio of SCBNL, NABIL &NIBL are 0.56%, 0.84% and 0.26% respectively. Coefficient of variation of SCBNL is 21.65%, NABIL is 26.55% and NIBL is 10.86%. To make bank's profitability and return from total deposit NIBL ratio are less variability then SCBNL & NABIL.

4.1.1.4 Risk Ratios

Risk taking is the prime business of bank's investment management. It increases effectiveness and profitability of the bank. These, ratio indicate the amount of risk associated with the various banking operations, which ultimately influences the bank investment policy. The following ratios are taken into account under this heading.

i)   Liquidity Risk Ratio

The Liquidity risk ratio measures the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the depositor's demand for cash. Higher the ratio, lower is the liquid risk. Dividing cash & bank balance calculate this ratio by total deposits. This can be mentioned as,

$$\text{Liquidity Risk Ratio} \ = \ \frac{\text{Total Cash \& Bank Balcne}}{\text{Total Deposit}}$$

Table 4.15

Liquidity Risk Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	16.23	8.41	11.40
2008	8.23	14.49	10.90
2009	18.92	10.51	16.96
2010	10.23	9.74	15.09
2011	11.03	9.52	12.15
Mean	12.93	10.53	13.32
SD	3.47	2.107	2.34
CV	26.7	17.6	17.6

Source: Appendix 2

The table shows the mean, standard deviation and coefficient of variation of liquidity risk ratio of commercial banks. Figure in the table shows the percentage of liquidity risk ratio of SCBNL, NABIL & NIBL.

In above table liquidity ratios of the commercial banks are in fluctuating trend. SCBNL has maintained a highest ratio of 18.92% in the year 2009. Similarly, NABIL and NIBL have maintained a highest ratio of 14.49% and 16.96 in the year 2008 and 2009. They have maintained a lowest ratio of 8.23%, 8.41% and 10.90% in the FY 2008, 2007 and 2008 respectively.

If the mean ratios are observed NIBL has higher than that of SCBNL & Nabil respectively, i.e. 10.90<12.92<13.32. Which indicate that NIBL liquidity ratio are less variable then SCBNL and NABIL. is higher then SCBNL and NIBL. But according to the coefficient of variation NIBL is lower than SCBNL & NABIL. NIBL maintains the higher liquidity which operate lower risk which decrease profit. It indicates that nibl's liquidity is more consistency than other bank.

ii) Credit Risk Ratio

Credit risk is the probability that a borrower will fail to make required payments of principal and interest over the life of the loan. Risk plays an important role in debt contracting. Credit risk ratios measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition, credit risk ratio is expressed as the percentage of non-performing loan to total loan & advances. This ratio is calculated by dividing total loan and advances by total assets. This can be mentioned as,

Credit Risk Ratio = $\dfrac{\text{Loan and Advance}}{\text{Total Assets}}$

Table 4.16

Credit Risk Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	35.20	52.79	61.12
2008	38.92	55.91	67.5
2009	31.48	60.55	66.35
2010	38.37	60.25	68.32
2011	41.82	63.41	71.99
MEAN	37.158	58.58	67.05
SD	3.532	3.76	3.52
CV	9.50	6.42	6.008

Source: Appendix 8

The above table 4.14 shows that the total mean, standard deviation & coefficient of variation of credit risk ratio of commercial banks.

The highest ratio SCBNL 41.82% in 2011 and lowest ratio is 31.48% in 2009. Similarly NABIL and NIBL highest ratio is 63.41% and 71.99% in same year 2011. And lowest ratio is 52.79% and 61.12% in same year 2007 respectively.

In the study of Mean ratio NIBL is maintain highest ratio then SCBNL and NABIL. The mean ratio of NIBL is 67.05 but SCBNL and NABIL have 37.158% and 58.58% respectively. So NIBL has higher credit in comparison to SCBNL & NABIL.

Coefficient of variation of NIBL is lower than that of other two banks. It indicates that NIBL has stable credit policy and consistent than other two banks.

iii) Capital Risk Ratio

The capital risk ratios of a bank indicate how much asset values may decline before the position of depositors and other creditors jeopardize. The capital risk is directly related to the return on equity (ROE). Higher the ratio, low is the capital risk. This ratio is computed by dividing capital (Paid up Capital + Reserves) by risk- weighted assets as computed under BASLE committee's formula. This can be mentioned as,

$$\text{Capital Risk Ratio} = \frac{\text{Capital (Paid up + Reserves)}}{\text{Risk Weigh ted Assets}}$$

Table 4.17

Capital Risk Ratio

(in %)

Year	SCBNL	NABIL	NIBL
2007	16.66	11.97	7.84
2008	15.88	16.44	7.23
2009	19.01	8.76	9.44
2010	19.16	9.51	9.23
2011	19.84	10.6	10.71
Mean	18.104	11.456	8.89
SD	1.56	2.73	1.23
CV	8.6	23.79	13.86

Source: Appendix 15

The above table shows that total mean, standard deviation & coefficient of variance of capital risk ratio of commercial banks. In above table capital risk ratios of the commercial banks are in fluctuating trend. SCBNL has maintained a highest ratio of 19.84% in the year 2011. Similarly, NABIL and NIBL have maintained a highest ratio of 16.44% and 10.71% in the year 2008 and 2011. They have maintained a lowest ratio of 15.88%, 9.51% and 7.23% in the FY 2008, 2009 and 2008 respectively.

 If the mean ratios are observed SCBNL has higher capital then others i.e 18.104>11.456&8.89. Similarly, coefficient of variation is lower than that of other two banks i.e.8.6<13.86<23.79 It is concluded that the SCBNL bank is more stable and low capita risk then NABIL & NIBL.

4.3 Growth Rate of Investment

Growth rate measure how well the firm is maintaining its economic and financial position. It is directly related to the fund mobilization an investment management of a commercial bank. The higher growth rate indicates better performance of concerned bank and vice versa.

Table 4.18

Growth Rate of Total Investment

(Rs in millions)

Fiscal Year	SCBNL	NABIL	NIBL
2007	13564	8952.3	6518.6
2008	13902.8	9966.6	6879.4
2009	18640.5	10875	7403.1
2010	19847.5	13612.1	7896.4
2011	17035.8	12406.7	6966.4
Growth Rate (%)	5.86	8.50	1.67

n = Variable in the 5th year

No = Variable in the initial year

N= No of Period Study

Growth rate SCBNL

Dn = Do $(1+g)^{n-1}$

SCBNL

$g = \left(\frac{Dn}{Do}\right)^{\frac{1}{4}} -1$

$$g = \left(\frac{17035.0}{13564}\right)^{\frac{1}{4}} - 1 = 5.8\%$$

NABIL

$$9 = \left(\frac{12406.7}{8952.3}\right)^{\frac{1}{4}} - 1 = 8.50\%$$

NIBL

$$9 = \left(\frac{6966.4}{6518.6}\right)^{\frac{1}{4}} - 1 = 1.67\%$$

The above table shows the growth ratio of total investment of SCBNL, NABIL & NIBL. Those are 5.86%, 8.50% & 1.67% respectively. It seems that growth ratio of NIBl is less than SCBNL &NABIL. The total investment of NIBL has less position in comparison to SCBNL &NABIL. But in the case of Investment it seemed to be sound efficiency of bank managers it is due to flux change of investment strategy and bank also running the growth stage.

4.4 Statistical Tools

Some important statistical tools are used to achieve the objective of this study. In this study, statistical tools such as Mean, Standard Deviation, Co-efficient of correlation, trend analysis and Probable Error have been used which are as follows:

4.4.1 Co-efficient of Correlation

This analysis interprets and identifies the relationship between two of more variables. In the case of highly correlated, the effects on none variable may have effect on other correlated variable. Under this topic, this study tries to find out relationship between the following variables:

- Coefficient of correlation between Total Deposit and Total investment
- Coefficient of correlation between Total Deposit and Loan & Advances

- Coefficient of correlation between total investment and net profit.

The above analysis tools analyze the relationship between these the relevant variables and helps the bank to make sound policies regarding deposit collection, fund utilization (loan and advances and investment) .

4.4.2 Coefficient of Correlation between Total Deposit and Investment

The following table describes the relationship between total deposits and investment of SCBNL, NABIL And NIBL with comparatively under five years study period. In the following case, total deposit is independent variables (X) and investment is dependent variables (Y).

Table 4.19

Correlation Coefficient between Total Deposits and Investment

Banks	SCBNL	NABIL	NIBL
Coefficient of Correlation (r)	0.885	0.96	0.816
R	0784	0.926	0.666
P. E	0.065	0.022	0.101
6 P. E	0.039	0.13	0.60

Source Appendix 16

In above table shows that correlation coefficient between total deposit and investment of three banks SCBNL , Nabil and Nibl in five study period.

From the above table, it is found that coefficient of correlation between total deposit and total investment of SCBNL is 0.885   i.e. high degree of positive correlation between these two

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variables. Therefore it reveals that relationship between total deposit and investment is high degree of positive correlation. Similarly, probable error (P.E.) is 0.065 and 6P.E. is 0.039 which shows that 'r' is greater than 6P.E. Therefore it reveals that relationship between total deposit and investment is significant. So, we can say that there is significant relationship between total deposits and total investments

Likewise in case of NABILl, coefficient of correlation between total deposit and investment is 0.96 i.e. there is high degree of positive correlation between two variables. It means correlation of coefficient between total deposit and investment of NABIL is nearly perfect positive correlation. Similarly, probable error (P.E.) is 0.065 and 6P.E. is 0.039 which shows that 6 P. E is less than r. Therefore it reveals that relationship between total deposit and investment is significant. So, we can say that there is significant relationship between total deposits and total investments

Similarly, it is found that coefficient of correlation between total deposit and investment of NIBL is 0.816 i.e. high degree of positive correlation between these two variables. It also reveals that relationship between total deposit and investment is perfect correlation. Similarly, probable error (P.E.) is 0.101 and 6P.E. is 0.6 which shows that 6P.E is less than r. Therefore it reveals that relationship between total deposit and investment is significant. So, we can say that there is significant relationship between total deposits and total investments This indicates that all banks are successful to invest their deposit in proper way.

Coefficient of correlation between Total Deposit and Loan & Advances. The following table describes the relationship between total deposits and loan and advances of SCBNL,NABILand NIBL with comparatively under five years study period. In the following case, total deposit is independent variables (X1) and loan and advance is dependent variables.

Table 4.20

Co-efficient of Correlation between Total Deposit and Loan and Advance

Banks	SCBNL	NABIL	NIBL
Coefficient of correlation (r)	0.75	0.54	0.985
P. E	0.132	0.213	0.009
6 P. E	0.79	1.299	0.054

Source Appendix 17

In above table shows that correlation coefficient between deposit and loan and advance of three banks SCBNL , Nabil and Nibl in five study period.

In the case SCBNL coefficient of coefficient between deposit and loan is 0.75 which shows high degree of positive correlation between deposit and loan and advance.

From the above table, it is found that coefficient of correlation between total deposit and loans & advances of SCBNL is 0.75 i.e. high degree of positive correlation between these two variables. Therefore it reveals that relationship between total deposit and loans & advances is closer to perfect correlation. Similarly, probable error (P.E.) is 0.132 and 6P.E. is 0.79 which shows that 'r' is less than 6P.E. Therefore it reveals that relationship between total deposit and loans and advance is insignificant. . In other words there is insignificant relationship between total deposit and loan and advances in case of SCBNL.

Likewise in case of NABIL, coefficient of correlation between total deposit and loans & advances is 0.54 i.e. there is moderate degree of positive correlation between two variables. It means correlation of coefficient between total deposit and loans & advances of NABIL is perfect correlation. Similarly, probable error (P.E.) is 0.213 and 6P.E. is 1.299 which shows that 6 P. E is greater than r. Therefore it reveals that relationship between total deposit and loans and advance is insignificant.

Similarly, in case of NIBL it is found that coefficient of correlation between total deposit and loans & advances of NIBL is **0.985** i.e. high degree of positive correlation between these two variables. It also reveals that relationship between total deposit and loans & advances is closer to perfect correlation. Similarly, probable error (P.E.) is **0.**09 and 6P.E. is 0.054 which shows that 6P.E is greater than r. Therefore it reveals that relationship between total deposit and loans and advance is significant. . Which indicates that NIBL is in strong condition to grant loan & advances for mobilizing the collected deposits in comparison to other two banks.

4.4.3 Coefficient of Correlation between Investment and Net Profit

Coefficient of correlation 'r' between investment and net profit measures the degree of relationship between these two variables. Here, investment is independent variable (x) and net profit is dependent variable (y). The purpose of computing co-efficient of correlation between investment and net profit is to find out whether the net profit is significantly correlated with respective total assets or not.

Table 4.14 shows the value of r, P.Er, 6 P.Er between investment and net profit of SCBNL, NABIL& NIBL for the study period of 2007 to 20011.

Table 4.21

Co-efficient of Correlation between Investment and Net Profit

Banks	SCBNL	NABIL	NIBL
Coefficient of correlation (r)	0.458	0.754	0.923
P. E	0.237	0.134	0.045
6 P. E	1.42	0.80	0.267

Source: Appendix 18

In above table shows that correlation coefficient between total investment and net profit of three banks SCBNL , Nabil and Nibl in five study period.

From the above table, it is found that coefficient of correlation between total investment and net profit of SCBNL is 0.458 i.e. low degree of positive correlation between these two variables. Similarly, probable error (P.E.) is 0.237 and 6P.E. is 1.42 which shows that 'r' is less than 6P.E. Therefore it reveals that relationship between total investment and net profit is insignificant. So we can say that there is no significant relationship between net profit and investment of SCBNL.

Likewise in case of NABIL, coefficient of correlation between total deposit and loans & advances is 0.754 i.e. there is high degree of positive correlation between two variables. It means correlation of coefficient between total investment and net profit of NABIL is positive correlation. Similarly, probable error (P.E.) is 0.134 and 6P.E. is 0.80 which shows that 6 P. E is greater than r. Therefore it reveals that relationship between total and net profit is insignificant. So we can say that there is no significant relationship between net profit and investment of NABIL..

Similarly, in case of NIBL it is found that coefficient of correlation between total investment and net profit of NIBL is 0.925 i.e. high degree of positive correlation between these two variables. It also reveals that relationship between total investment and net profit is closer to perfect correlation. Similarly, probable error (P.E.) is **0.**045 and 6P.E. is0.267 which shows that 6P.E is less than r. Therefore it reveals that relationship between total investment and net profit is significant there is significant relationship between investment and net profit of nibl because It indicates that NIBL is capable to earn net profit by mobilizing investment.

4.5 Trend Analysis of Investment

Table 4.22

Trend Analysis of Investment

(Rs in millions)

Year	SCBNL	NABIL	NIBL
2007	14020.46	7729.92	6571.14
2008	15309.29	9446.23	6851.96
2009	16598.12	11162.54	7132.78
2010	17886.95	12878.75	7413.6
2011	19176.49	14595.16	7694.42
2012	20464.61	16311.47	7975.24
2013	21753.44	18027.78	8256.06
2014	23042.27	19744.09	8536.88
2015	24331.1	21460.4	8817.7
2016	25619.93	23176.71	9098.52

Source Appendix 19

From the above table shows that the total investment of SCBNL, NABIL and NIBL banks all are increasing trend.

If our assumption is applied the total investment of SCBNL in 2016 will be 25619.93 millions which is higher than other bank. Similarly investment of NABIL and NIBL in 2016 will be 23176.71& 9098.52 millions respectively.

From the above analysis it can be concluded that SCBNL's increasing trend which is greater increasing ratio than other two banks, it means SCBNL may use relatively large portion of

deposit towards investment in different sectors. Above analysis also reveals that SCBNL, NABIL and NIBL are uses the skill and attention towards the potential sector of the investment.

Figure 4.1

Trend Analysis of Investment
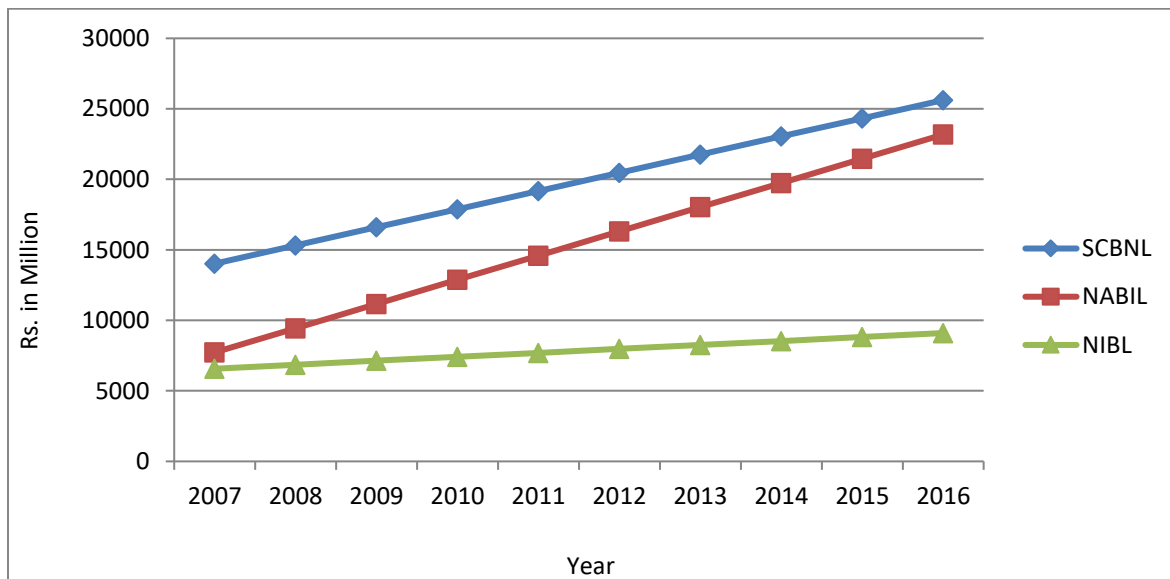
From above trend chart it is found that SCBNL has favorable condition than NABIL and NIBL for utilizing the total deposit towards investment.

4.6 Major Finding of the Study

The major finding of the study of the investment policy of SCBNL, NABIL and NIBL are be rived on the basic of financial and statistical data of the banks which are presented below.

Liquidity Ratio Analysis

- The means current ratio of these banks were lower than the standard current ratio of 2: but for the banking point of view it is satisfactory ratio is not homogeneous.

- The mean ratio of cash at bank balance to total deposit of NIBL is higher then SCBNL and NABIL CV of NIBL shows less variable then others.

- The mean ratio of cash and bank balances to current assets are 12.144, 8.75 and 11.508 of SCBNL, NABIL and NIBL. The CV of NIBL is less then other banks. So, NIBL is better position in maintaining its cash and bank to meet its daily reuse remit to make the payments an customers deposit with drawel in comparison to SCBNL and NABIL.

- The mean of government securities to current assets of SCBL is higher then NABIL and NIBL which states that its Investment an government securities is highly rich then NABIL and NIBL on the basic of C.V. the Ratio of SCBNL are more volatile in consistent .

- The mean ratio of loan and advances to current assets ratio of NIBL is higher then SCBNL and NABIL. Which Shows that the NIBL'S ratio are less volatile then that of SCBNL NABIL.

Finding from the Assets Management Ratio

The assets Management ratio of SCBNL NABIL and NIBL

- The mean ratio of loan and advance to total deposit of NIBL is higher then that of SCBNL and NABIL the CV. F NABIL has maintained lower then that of SCBNL and NIBL, which indicated of that NABIL is more consistent.

- The mean ratio of total investment to total deposit of SCBNL is higher then that of NABIL and NIBL. The variability of the total SCBNL is more consistent then NABIL and NIBL.

- The mean ratio of investment on government securities to total working fund of SCBNL is higher then NABIL and NIBL. The variability of eh investment on government securities ratio of SCBNL is lower then other . it means SCBNL is more stable and consistent

- The mean ratio of investment on share is debenture ratio to total working fund of SCBNL is higher than it means SCBNL is more success to invest its fund in government securities then NABIL and BIBL the variability of the ratio NIBL is higher then SCBL and NABIL .

Profitability Ratio

- The mean of return on total assets of NABIL is higher then SCBNL and NIBL it shows that NABIL is higher efficiency to earn profit. The CV. Of SCBNL is higher than NABIL and NIBL SCBNL is less consistent stable then other both .

- The mean ratio of return on loan and advance of SCBNL is higher than NABIL and NIBL which shows that SCBNL is highly efficiency to earn profit on loan and advance CV of NIBL is lower than SCBIL and NABIL so NIBL is more consistence and stable then other banks.

- The average ratio of return on total investment of NIBL has higher the SCBNL & NABIL. CV of NABIL is higher the SCBNL & NIBL it shows that NABIL is more uniformity then that of SCBNL & NIBL.

- The mean ratio of return on total deposit of NABIL is higher than that of SCBNL & NIBL's ratio and compared of CV. NIBL ratio are less variability then SCBNL & NABIL.

Risk Ratio

- The risk ratio of SCBNL, NABIL AND NIBL reveal that the average liquidity risk ratio of NIBL is higher than that of SCBNL & NABIL NIBL's ratios are less variability in comparison to SCBNL & NABIL.

- the mean ratio of credit risk of NIBL is higher the SCBNL and NABIL therefore NIBL is ratio are less uniform in comparison to SCBNL and NABIL

- During the study period the mean ratio of capital risk of SCBNL is higher then NABIL & NIBL. So SCBNL ratios are more homogenous then that of NABIL & NIBL.

Growth Rate of Investment

The total investment of studies banks are fluctuating trend during the study period. The growth rate of investment NABIL growth rate is higher than SCBNL &NIBL i.e 8.50> 5.86%>1.67% . This implies that NABIL has succeeded on the investment then SCBNL &NIBL It shows that NIBL has low successful in investing. NABIL is successful in investment.

Co-efficient of Correlation Analysis

Co-efficient of correlation analysis between different variables of SCBNL, NIBL& NIBL shows that;

- Co-efficient of correlation between deposit and total investment of all three banks are positive relationship between these variables. Nabil has the lowest value of co-efficient of correlation between deposit and investment than SCBNL and NIBL. This indicated NABIL position is not better in mobilization of deposit as investment in compared to SCBNL & NIBL.

- Co-efficient of correlation between deposit and loan & advance of NIBL is higher than SCBNL and NABIL. It shows the positive relationship between these two variables. It indicates that the total deposit in mobilizing loan and advance of NIBL is better then SCBNL & NABIL.

Coefficient of correlation between total investment and net profit of NIBL is higher then SCBNL and NABIL. It shows there is significant relationship between investment and net profit of NIBL because It indicates that NIBL is capable to earn net profit by mobilizing investment.

From above findings, it can be concluded that there is significant relationship between investment, deposit, loan & advances and net profit.

Trend Analysis Investment and Projection for Next Five Years

The trend analysis and projection for next five years of SCBNL NABIL & NIBL reveals that the trend analysis of total investment of all three banks has increasing trend. NABIL'S increasing trend of investment is greater then NIBL & less then SCBNL i.e 9098.52<23176.71<25619.93 millions,. The increasing trend of investment SCBNL'S ravels that it has better condition for utilizing the total deposit towards investment. It shows the SCBNL's position will be better in near future in comparison to other two banks.

CHAPTER - V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In the last chapter of this study is summary, conclusion and recommendation have discussed and explored the facts and matters required for various parts of the study. Through the analytical chapter by using some important financial as well as statistical tools, makes a comparative analysis of various aspects of the investment of concern commercial banks.

Having completed the basic analysis required for the study, the researcher must point out the mistakes and error and also correct them by giving suitable suggestions for further improvement. Therefore, this summarized and recommended tasks of the researcher of the study would be meaningful to the top management of the bank to initiate the action and achieve the desired result.

5.1 Summary

Economic development of a country cannot be imagined without the development of commerce and industry. No doubt, banking promotes the development of commerce to its extreme, as banking itself is the part of commerce.

The development of any country largely depends upon its economic development. Economic development demands transformation of savings or resources into the actual investment. Capital formation is the prerequisite in setting the overall pace of the economic development of a country. It is the financial institution that transfers funds from surplus spending units to deficit units. Banking sector plays a vital role for the country's economic development. Bank is a resource mobilizing institution, which aspect deposits from various sources, and invests such accumulated resources in the fields of agriculture, trade, commerce, industry, tourism etc. Banks help to mobilize the small saving collectively to huge capital markets. Commercial banks

basically help to promote the money market by providing expert managerial skills and by using advanced and often state of the art technologies to serve the customers in an efficient and effective manner. Among other banking operations, investment operation of commercial banks is very risky one. It is the most important factor from the view point of depositors, shareholders and bank management. For this, commercial banks have to pay due consideration while formulating Investment Policy. A healthy development of any commercial bank depends upon its investment policy. A rational Investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposits, loans and investment. The major source of income of a bank is interest income from loans and investments and fee based income. As loan and advances dominate the asset side of the balance sheet of any bank; similarly earnings from however, it is very important to be reminded that most of the bank's failures in the world are due to the shrinkage in the value of loans and advances. Hence, loan is known as risky assets and investment operation of commercial banks is very risk of non repayment of loan is known as credit risk of default risk. Performing loans have multiple benefits to the society by helping for the growth of economy while non performing loans erode even existing capital. Considering the importance of lending to the individual banks and also to the society it serve, it is imperative that the bank meticulously plans its credit operations.

Now-a-days, many commercial banks are rapidly opened in Nepal as commercial banks with higher technology and efficient methods in banking sector especially after the political reform of the country. At present, 32 commercial banks are operating in Nepal.

But in this study, only three commercial banks has been undertaken i.e. SCBNL, NABIL& NIBL Bank. This study has been completed on the basis of secondary data.

Periodical review and analysis of financial aspects of the banks are very necessary to see the clear financial pictures; investment policy of Nepalese commercial banks in Nepal i.e. SCBNL,NABIL & NIBL has been carried out to fulfill this requirement. Studied of selected banks are introduced. Problems are stated to set the objectives of the study. The objectives are to evaluate the investment policy of SCBNL, NABIL and NIBL banks and to identity their strengths and weaknesses. Theoretical framework of ratio analysis, correlation between two variables, its importance and limitations, research methodology and limitations of the study are mentioned. The findings of liquidity ratios,assets management ratio and profitability ratios, risk ratios are presented on a comparative basis. Besides, statistical analysis i.e. mean, standard deviation,

coefficient of variance of all ratios and correlation of coefficient of the total deposit with net profit, loans and advances, investment and deposit is also done of the selected banks. This analysis gives clear picture of the performance of the bank with regard to its investment practices. All of the information and data are collected from related banks i.e. websites, annual reports. The operating efficiencies of the selected banks and their abilities to ensureadequate returns to the shareholders have been measured.

5.2 Conclusion

On the basis of entire research study some conclusions have been deduced. This study particularly deals about the financial position of commercial banks in Nepal. The present study is mainly an attempt to give account of comparative study about commercial banks in different aspects such as liquidity position, profitability position, and market position and other related ratios and indicators of the basis of financial statement. After conducting the investment policy of SCBNL, NABIL and NIBL, covering the study period of 2007 to 2011. The following conclusions can be drawn from the study:

- The liquidity positions of commercial banks aren't very poor though the

  rule of thumb the standard ratio should be 2:1. The banks are unable to

  maintain the current ratio in accordance with standard.

- The liquidity position of Nabil is comparatively lower than SCBNL and NIBL. but NIBL has the highest cash and bank balance to current assets, cash and bank balance to total deposit, loan and advance to current assets. But SCBNL investment more on government securities to current assts ratio. So we can conclude that in liquidity position NIBL investment practices is better then other.

- Through the assts management ratio, SCBNL has highest investment practic towards investment to total deposits, government securities to total working fund investment on share & debenture but NIBL has highest in loan & advance to total deposit. Finally it can concluded that assets management position of SCBNL is more effective then NABIL and NIBL

- In analysis of profitability, return on total working fund and return on total deposit of NIBL is higher, return on total loan and advance SCBNL is higher and return on total deposit

NIBL is higher then other so NABIL is strong position in the earning capacity by utilizing available resources then SCBNL and NIBL**.**

- From the viewpoint of risk ratio, liquidity risk and credit risk of NIBL is lower than SCBNL and NABIL but in case of capital risk SCBNL has lower risk than other two banks.

- From the analysis of growth rate of investment, NIBL'S has lower growth rate in total investment but NABIL has higher growth rate then SCBNL and NIBL.

- From the co-efficient of correlation between deposit & total investment is significant relationship but co-efficient of correlation between deposit and loan and advance of SCBNL and NABIL is insignificant relationship.

- From the co-efficient of correlation between total investment and net profit of NIBL'S is significant relationship but SCBNL and NABIL'S is insignificant relationship.

- From the study we can concluded that trend analysis of total investment is increasing trend. All banks have better condition for utilizing the total deposit towards investment. It shows all bank will be better in near future.

5.3 Recommendations

On the basis of above analysis and conclusion, following recommendations are made.

- Current ratio of sample banks is not sufficient to achieve standard ratio i.e. 2:1, so it is recommended to all banks to maintain required current ratio. They need to maintain the present mean current ratio for the proper management of their liquidity position.

- Cash &bank balance to total deposits ratio of NABIL is less then NRRB's minimm requirement (i.e 12% of total deposit liabilities). So NABIL are suggested that they should maintain minimum requirement cash and bank balance .

The commercial bank's main source of fund is collection deposit from public who don't need that fund recently. Deposit collection has played a significant role in term of daily activities in commercial bank. It has found growth rate of deposit collection of NABIL is lower than that of SCBNL & NIBL. So it is recommend to collect more amount as deposit through largely variety of deposit schemes and facilities.

From the above study NABIL has not properly used their existing funds as loan and advance. The largest item of the bank in the asset side is loan and advances. If it is neglected, then it could be the main cause of liquidity crisis in the bank and one of the main reasons for a bank's failure. So

NABIL is strongly recommended improving the efficiency in utilizing the deposits in loan and advances for generating the profit.

- Out of working fund, NABIL has not invested its more funds as total investment in comparison to other two banks. NABIL is in weak condition to mobilize its deposits by investing in different sectors in comparison to other banks. Though, the percentage of invested fund by all banks is very nominal. So, it is recommended to all banks to invest their more funds in different types of companies' indifferent areas.

- Portfolio condition of all banks should be examined carefully from time to time and attention should be made to maintain equilibrium in the portfolio condition as far as possible. So it can be said, "all eggs should not be kept in the same basket". The bank should make continuous efforts to explore new competitive and high yielding investment opportunities to optimize their investment portfolio.

- Most of the commercial banks have focused their banking services especially to big clients such as multinational companies, large-scale industries, manufactures and exporters of garments and carpets. The minimum level bank balance and the amount needed to open an account in all banks are very high amount. So, small depositors are very far from enjoying the banking facilities provided by such commercial banks. So, all banks should open its doors to the small depositors and entrepreneurs for promoting and mobilizing small investors' funds and to attract depositors through variety of deposit schemes and facilities like cumulative deposit scheme, prize bonds scheme, gift cheques scheme, recurring deposit scheme (life insurance), monthly interest scheme etc. Recently the collection of fund for Global bank is the good example to support this point.

- The project oriented approach has to be encouraged in lending business of the banks, in which, security is not necessary, risk is high but the project is important from the point of view of national economy. The project should be allowed to make them capable to generate their own funds and to repay loans timely. So, it is recommended to all banks that it should follow project oriented approach for their efficient performances. Because the chance of loan loss can be minimized by the project - oriented approach.

- Though commercial banks have played important role in the economic development of the country, they are not efficiently playing the role of a merchant bank. So, the commercial banks is suggested to play the role of financial intermediary and merchant

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banking like underwriting of securities brokers, development of capital markets and supportive role to the security exchange center.

- In the light of growing competition in the banking sector, the business of the bank should be customer oriented. It should strengthen and activate its marketing function, as it is an effective tool of attracting and retaining customers. For this purpose, the banks should develop an "Innovative approach to Bank Marketing" and formulate new strategies of serving customers in a more convenient and satisfactory way.

- Although most of the banks have recently expanded their braches all over the country but some of them do not have branches in the rural areas of the country. Its branches are limited to the urban areas only. Therefore, commercial banks are recommended to open branches in rural areas too to help in economic development of the country. HMG/N has also encouraged the joint venture banks to expand baking service in rural areas and communities without making unfavorable impact in their profit.

- In the light of growing competition in the banking sector, the business of the bank should be customer oriented. The bank is recommended to adopt new technology and services such as financial switch system (SWIFT), automatic teller machine (ATM) cards, visa electron debit card, international credit card, locker services, lending against goal and silver services, parking service, 24 hour services etc. The bank should involve in different kind of social and community development activities. The bank has been able to provide more personalized services and a better environment for its customer, it is an effective tool to attract and retain the customers.

To get success itself and to encourage financial and economic development of the country through industrialization and commercialization a commercial bank must mobilize its fund and debentures of other financial and non financial companies. And if other sectors go up positively than bank can utilize its fund more and more by providing them loan or getting sufficient dividend on their share or interest on their debentures. Commercial banks needed to strengthen its economic structure to achieve piped overall development. They have to resort to innovative approach of banking there by bringing professionalism in their business. If they follow those suggestions they can have better reach to the modern innovative and competitive banking markets.

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APPENDICES

A Ratio Analysis

1) Current Ratio

Year	Current Assets	Current Liabilities	Ratio
2007	29508.4	27490	1.073
2008	33870.8	31381.3	1.0791
2009	41170.9	38157.1	1.0791
2010	41013.3	37385.4	1.097
2011	40092	36733.5	1.091

NABIL

Year	Current Assets	Current Liabilities	Ratio
2007	29371.4	27100	1.084
2008	37967	35671.2	1.064
2009	45305.5	41880.5	1.082
2010	53826.5	49681.7	1.083
2011	56178	52194	1.076

NIBL

Year	Current Assets	Current Liabilities	Ratio
2007	27808.9	26629.5	1.044
2008	39226.7	37415.0	1.048
2009	53506.5	50231.4	1.065
2010	58363.6	54363.4	1.073
2011	58281.6	54198.1	1.075

Calculation of Mean and S.D. and CV of SCBNL

Year	SCBNL	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	1.073	-0.011	0.000121
2008	1.079	-0.05	0.0025
2009	1.079	-0.05	0.0025
2010	1.097	0.013	0.000169
2011	1.091	0.07	0.0049
	$\Sigma x = 5.419$		$\Sigma(X-\bar{X})^2 = 0.01019$

Mean $\bar{X} = \frac{\Sigma X}{n} = \frac{5.419}{5} = 1.084$ S. D $= \frac{\sqrt{\Sigma (X-X)^2}}{N} = \frac{\sqrt{0.0109}}{5} = 0.045$ Variance $= \frac{SD}{\bar{X}} = 4.15\%$

NABIL

Year	X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	1.084	0.006	0.0000136
2008	1.064	-0.014	0.000196
2009	1.082	0.004	0.000016
2010	1.083	0.005	0.000025
2011	1.076	0.002	0.000004
	Σx = 5.389		Σ(X-$\bar{X}$)² =0.00028

Mean = $\frac{\Sigma X}{N}$ = 1.0780   S.D = $\frac{\Sigma(X-\bar{X})^2}{N}$ =0.0072   Variance = $\frac{SD}{\bar{X}}$ =0.667%

NIBL

Year	X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	1.044	-0.015	0.000289
2008	1.048	-0.013	0.000169
2009	1.065	0.004	0.000046
2010	1.073	0.012	0.000144
2011	1.075	0.014	0.000196
	Σx = 5.305		Σ(X-$\bar{X}$)² =0.000814

$\bar{X} = \frac{\Sigma x}{N} = \frac{5.305}{5} = 1.061$ S .D $= \frac{\Sigma(X-\bar{X})^2}{N} = 0.023$ CV. $\frac{6}{\bar{X}} = 2.1671$

2) Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)

SCBNL

Year	Cash and Balance	Total Deposit	Ratio
2007	3996.1	24640.3	16.23
2008	2447.7	29743.9	8.23
2009	6788.5	35871.8	18.92
2010	3598.8	35182.7	10.23
2011	3761.3	34094.3	11.03

NABIL

Year	Cash and Balance	Total Deposit	Ratio
2007	1963.3	23342.4	8.41
2008	4623.5	31915.0	14.49
2009	3925.4	37348.3	10.51
2010	4513.7	46334.8	9.74
2011	4413.4	46339.6	9.52

NIBL

Year	Cash and Balance	Total Deposit	Ratio
2007	2791.5	24488.9	11.40
2008	3755.0	34451.8	10.90
2009	7918.9	46697.9	16.96
2010	7558.4	50094.7	15.09
2011	5880.6	48381.8	12.15

SCBNL

Year	Ratio	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	16.23	3302	11.022
2008	8.23	-4.752	22.58
2009	18.92	5.938	35.26
2010	10.23	-2.752	7.574
2011	11.03	-1.952	3.81
	Σx = 64.64		80.244

Mean $\bar{X} = \frac{\Sigma x}{n} = \frac{64.64}{5} = 12.928$ S.D.(6) $= \frac{\Sigma(X-\bar{X})^2}{N} = \frac{\sqrt{80.246}}{5} = 4.006$ CV. $= \frac{6}{\bar{X}} = 30.86\%$

NABIL

Year	Ratio	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	8.41	-2.214	4.90
2008	14.49	3.956	15.65
2009	10.51	-0.024	0
2010	9.74	-0.794	0.63
2011	9.52	-1.014	1.028

$\bar{X} = \frac{\Sigma X}{N} = \frac{52.67}{5} = 10.534$ S.D. (6) $= \frac{\Sigma(x-\bar{X})^2}{N} = \frac{22.21}{5} = 2.107$ C.V.$= \frac{6}{\bar{x}} = \frac{2.107}{10.534} = 20\%$

NIBL

Year	Ratio	(x-x̄)	(X-X̄)2
2007	11.40	-1.92	3.686
2008	10.90	-2.42	5.856
2009	16.96	3.64	13.250
2010	15.09	1.77	3.133
2011	12.15	-1.17	1.369
	Σx= 66.5		Σ(x-x̄)2= 27.294

$$\bar{x} = \frac{\Sigma X}{N} = \frac{66.5}{3} = 13.32 \quad S.D. = \frac{\sqrt{\Sigma(X-\bar{x})^2}}{N}n = \frac{\sqrt{27.294}}{5} = 2.34 \quad CV. = \frac{6}{\bar{X}} = \frac{2.34}{13.3} = 17.59\%$$

3) Cash and Bank Balance to Current Assets Ratio

SCBNL

Year	Cash and Bank Balance	CA	Ratio
2007	3996.1	29508.4	13.54
2008	4247.7	33870.8	12.54
2009	6788.5	41170.9	16.49
2010	3598.8	41013.3	8.74
2011	3716.3	40092	9.38

NABIL

Year	Cash and Bank Balance	CA	Ratio
2007	1963.3	29371.4	6.68
2008	4623.5	37967	12.18
2009	3925.4	45305.5	8.66
2010	4513.7	53826.5	8.39
2011	4413.4	56178	7.86

NIBL

Year	Cash and Bank Balance	CA	Ratio
2007	2781.5	27803.9	10.04
2008	3755.0	39226.7	9.57
2009	7918.9	53506.5	14.80
2010	7558.4	58363.6	12.95
2011	5880.6	58281.6	10.09

Calculation of Mean S.D. and C.V.

Year	SCBNL (X)	$x-\bar{x}$	$(x-\bar{x})^2$
2007	13.54	1.396	1.949
2008	12.54	0.396	0.157
2009	16.49	4.346	18.888
2010	8.77	-3.374	11.384
2011	9.38	-2.764	7.640
Mean	60.72		40.02

Mean $\bar{X} = \frac{\Sigma X}{n} = 12.144$ S.D. $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{40.02}}{5} = 2.83$ CV. $= \frac{6}{\bar{X}} = \frac{2.83}{12.144} = 23.3\%$

NABIL

Year	(X)	$x-\bar{x}$	$(x-\bar{x})2$
2007	6.68	-2.070	4.28
2008	12.18	3.430	11.76
2009	8.66	-0.090	0.01
2010	8.39	-0.360	0.13
2011	7.36	-1.390	1.93
	$\Sigma X = 43.77$		$\Sigma (X-\bar{X})^2 = 16.983$

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{43.77}{5} = 8.75$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{16.983}}{5} = 1.84$ C.V. $\frac{6}{X} = \frac{1.84}{8.75} = 21.06\%$

NIBL

Year	(X)	$x-\bar{x}$	$(x-\bar{x})2$
2007	10.04	-1.468	2.155
2008	9.57	-1.938	3.756
2009	14.8	3.292	10.837
2010	12.35	0.842	0.709
2011	10.09	-1.418	2.011
	$\Sigma X = 57.54$		$\Sigma (X-\bar{X})^2 = 16.62$

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{57.54}{5} = 11.508$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{16.62}}{5} = 1.82$ C.V. $\frac{6}{X} = \frac{1.82}{11.508} = 15.84\%$

4) Investment on Government Securities to current Assets Ratio

SCBNL

Year	Investment on Government Securities	CA	Ratio
2007	7115.7	29508.4	24.11
2008	8137.6	33870.8	24.03
2009	9998.8	41170.9	24.29
2010	8531.5	41013.3	20.80
2011	8579.1	40092	21.40

NABIL

Year	Investment on Government Securities	CA	Ratio
2007	4805.7	29371.4	16.36
2008	4646.9	37967	12.24
2009	3706.3	45305.5	8.18
2010	7941.3	53826.5	14.75
2011	6095.8	56178	10.85

NIBL

Year	Investment on Government Securities	CA	Ratio
2007	3246.4	27808.9	11.71
2008	3153.0	39226.7	8.43
2009	2531.3	53506.5	4.73
2010	4201.9	58363.6	7.2
2011	3509.7	58281.6	6.02

SCBNL

Year	X	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	24.11	1.184	1.402
2008	24.03	1.104	1.219
2009	24.29	1.364	1.860
2010	20.80	-2.126	4.52
2011	21.40	-1.526	2.329
	$\sum X$= 114.63		$\sum(X-\bar{X})^2$ = 11.33

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{114.63}{5} = 22.926$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{11.33}}{5} = 1.51$ C.V. $\frac{\sigma}{X} = \frac{1.51}{22.926} = 6.6\%$

NABIL

Year	X	x-$\bar{x}$	(x-$\bar{x}$)2
2007	16.36	3.884	15.085
2008	12.24	-0.236	0.056
2009	8.18	-4.296	18.456
2010	14.75	2.274	5.171
2011	10.85	-1.626	2.644
	Σ X= 62.38		Σ (X-$\bar{X}$)2 = 41.41

Mean $\bar{x} = \frac{\Sigma X}{N} = 12.476$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{41.41}}{5} = 2.38$ C.V. $\frac{6}{X} = 23.07\%$

NIBL

Year	X	x-$\bar{x}$	(x-$\bar{x}$)2
2007	11.71	4.092	16.744
2008	8.43	0.812	0.659
2009	4.73	-2.888	8.341
2010	7.20	-0.418	0.175
2011	6.02	-1.598	2.554
	Σ X= 38.09		Σ (X-$\bar{X}$)2 = 28.473

Mean $= \frac{\Sigma X}{N} = 7.618$ S.D. $= \frac{\Sigma(X-\bar{X})^2}{N} = \frac{28.473}{5} = 2.39$ CV $= \frac{6}{\bar{X}} = 31.32\%$

5)Loan and Advances to Current Assets Ratio

SCBNL

Year	Loan & Advances	CA	Ratio
2007	10538.1	29508.4	35.71
2008	13355.0	33870.8	39.43
2009	13118.6	41170.9	31.86
2010	15932.2	41013.3	38.85
2011	16993.6	40092	42.39

NABIL

Year	Loan & Advances	CA	Ratio
2007	15657.1	29371.4	53.31
2008	21514.6	37967	56.67
2009	27816.6	45305.5	61.40
2010	32902.8	53826.5	61.13
2011	36187.1	56178	64.42

NIBL

Year	Loan & Advances	CA	Ratio
2007	17482	27808.9	62.86
2008	27145.5	39226.7	69.20
2009	36250.4	53506.5	67.75
2010	40689.6	58363.6	69.72
2011	42794.6	58281.6	73.43

SCBNL

Year	X	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	35.71	-1.938	3.756
2008	39.43	1.782	3.176
2009	31.86	-5.788	33.501
2010	38.85	1.202	1.445
2011	42.39	4.742	22.487
	$\sum X = 188.24$		$\sum (X - \bar{X})^2 = 64.365$

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{188.24}{5} = 37.648$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{64.365}}{5} = 3.59$ C.V=. $\frac{\sigma}{X} = \frac{3.59}{37.648} = 9.5\%$

NABIL

Year	X	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	53.31	-6.076	36.918
2008	56.67	-2.716	7.377
2009	61.40	2.014	4.056
2010	61.13	1.744	3.042
2011	64.42	5.034	25.341
	$\sum X$= 296.93		$\sum(X-\bar{X})^2$ = 76.734

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{296.93}{5} = 59.386$ S.D = $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{76.734}}{5} = 3.918$ C.V=. $\frac{\sigma}{X} = \frac{3.918}{59.386} = 6.6\%$

NIBL

Year	X	X-$\bar{X}$	(X-$\bar{X}$)^2
2007	62.86	-5.736	32.902
2008	69.20	0.604	0.365
2009	67.75	-0.846	0.716
2010	69.72	1.124	1.263
2011	73.75	4.854	23.561
	$\sum X$=342.98		$\sum(X-\bar{X})^2$ = 58.81

Mean $\bar{x} = \frac{\Sigma X}{N} = \frac{342.98}{5} = 68.596$ S.D = $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{58.81}}{5} = 3.429$ C.V=. $\frac{\sigma}{X} = \frac{3.429}{68.596} = 5\%$

B) **Assets Management Ratios**

5) **Loan and Advances to Total Deposit Ratio**

SCBNL

Year	Loan and Advance	Total Deposit	Ratio
2007	10538.1	24640.3	42.77
2008	13355.0	29743.9	44.9
2009	13118.6	35871.8	36.57
2010	15932.2	35182.7	45.28
2011	16993.6	34094.3	49.80

NABIL

Year	Loan and Advance	Total Deposit	Ratio
2007	15657.1	23342.4	67.08
2008	21514.6	31915.0	67.41
2009	27816.6	37348.3	74.48
2010	32902.8	46334.8	71.01
2011	36187.1	46339.6	78.09

NABIL

Year	Loan and Advance	Total Deposit	Ratio
2007	17482	24488.9	71.39
2008	27145.5	34451.8	78.79
2009	36250.4	46697.9	77.63
2010	40689.6	50094.7	81.23
2011	42794.6	48381.8	88.45

S.D. of SCBNL

Year	X	$(X - \bar{X})$ 43.86	$(X - \bar{X})^2$
2007	42.77	-0.0094	0.001
2008	44.9	1.04	1.082
2009	36.57	-7.29	53.144
2010	45.28	1.42	2.016
2011	49.8	5.94	35.283
			$\Sigma (X-\bar{X})^2 = 91.33$

$$\bar{X} \text{ SCBNL} = \frac{219.32}{5} = 43.86 \quad S.D = \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = 4.28 \quad \text{Variance} = \frac{\sigma}{\bar{X}} = \frac{4.28}{43.86} = 9.76\%$$

NABIL

Year	X	$(X - \bar{X})$	$(X - \bar{X})^2$
2007	67.08	-4.53	20.52
2008	67.41	-4.20	17.64
2009	74.48	2.87	8.24
2010	71.01	-0.6	0.36
2011	78.09	6.46	41.99
			$\Sigma (X-\bar{X})^2 = 88.75$

$$\bar{X} = \text{NABIL} = \frac{358.07}{5} = 71.61 \quad S.D = \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = 4.21 \quad \text{Variance} = \frac{4.21}{71.61} = 5.88\%$$

S.D. of NIBL

Year	X	(X - $\bar{X}$)	(X - $\bar{X}$)²
2007	71.39	-8.11	65.77
2008	78.79	-0.71	0.504
2009	77.63	-1.89	3.50
2010	81.23	1.73	2.993
2011	88.45	8.95	80.103
			Σ (X- $\bar{X}$)²= 152.865

$\bar{X}$ NIBL = $\frac{397.49}{5}$ = 79.50 S.D = $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{N}$ = $\frac{\sqrt{152.86}}{5}$ = 5.53 Variance = $\frac{\sigma}{\bar{X}}$ = $\frac{4.28}{43.86}$=9.76%

7)Total Investment to Total Deposit Ratio

SCBNL

Year	Total Investment	Total Deposit	Ratio
2007	1356.4	24640.3	55.05
2008	13902.8	29743.9	46.74
2009	18640.5	35871.8	51.96
2010	19847.5	35182.7	56.41
2011	17035.8	34094.3	49.97

NABIL

Year	Total Investment	Total Deposit	Ratio
2007	8952.3	23342.4	38.35
2008	9966.6	31915.0	31.22
2009	1087.5	37348.3	29.12
2010	13612.5	46334.8	29.38
2011	12406.7	46339.6	26.77

NIBL

Year	Total Investment	Total Deposit	Ratio
2007	6518.6	24488.9	26.62
2008	6879.4	34451.8	19.97
2009	7403.1	46697.9	14.78
2010	7896.4	50094.7	15.76
2011	6966.4	48381.8	14.40

Standard Deviation of SCBNL

Year	X	$(X-\bar{X})$= 52.02	$(X-\bar{X})^2$
2007	55.05	3.03	9.18
2008	46.74	-5.28	27.88
2009	51.96	-0.06	0.0076
2010	56.40	4.38	19.18
2011	49.97	-2.05	4.20
Total	260.12		60.45

$\bar{X}$ SCBNL = $\frac{260.12}{5}$ = 52.024 S.D = $\frac{\Sigma(X-\bar{X})^2}{N}$ = 3.48 Variance = $\frac{\sigma}{\bar{X}}$ = $\frac{3.48}{52.024}$ = 9.76%

S.D. of NABIL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	38.35	7.38	54.46
2008	31.22	0.25	0.0625
2009	29.12	-1.85	3.42
2010	29.38	-1.59	2.53
2011	26.77	-4.2	17.64
Total	154.84		78.11

$\bar{X}$ NANIL = $\frac{154.84}{5}$ = 30.968 S.D = $\frac{\Sigma(X-\bar{X})^2}{N}$ = 3.95 Variance = $\frac{\sigma}{\bar{X}}$ = $\frac{3.95}{30.96}$ = 12.75%

S.D. of NIBL

Year	X	$(X-\bar{X})$= 18.31	$(X-\bar{X})^2$
2007	26.62	8.31	69.06
2008	19.97	1.66	2.76
2009	14.78	-3.53	12.46
2010	15.75	-2.56	6.55
2011	14.40	-3.91	15.29
Total	91.52		$\Sigma(X-\bar{X})^2$106.12

$\bar{X}$ NIBL = $\frac{91.52}{5}$ = 18.304 S.D = $\frac{\Sigma(X-\bar{X})^2}{N}$ = 4.61 Variance = $\frac{\sigma}{\bar{X}}$ = $\frac{4.61}{18.034}$ = 25.19%

8)Loan and Advances to Working Fund Ratio

SCBNL

Year	Loan and Advances	Total Working Fund	Ratio
2007	10538.1	29937.4	35.20
2008	13355.0	34312.9	38.92
2009	13118.6	41678.8	31.48
2010	15932.2	41525.2	38.37
2011	16993.6	406331	41.82

NIBL

Year	Loan and Advances	Total Working Fund	Ratio
2007	17482.0	28572.8	61.12
2008	27145.5	40205.5	67.5
2009	36250.4	54634.5	66.35
2010	40689.	59554.7	68.32
2011	64279.4	59444.5	71.99

NIBL

Year	Loan and Advances	Total Working Fund	Ratio
2007	15057.1	29660.4	52.79
2008	21514.6	38478.6	55.91
2009	27816.6	45941.6	60.55
2010	32902.8	54609.8	60.25
2011	36187.1	57071.1	63.41

9)Investment on Government Securities to Total Working Fund Ratio

SCBNL

Year	Investment on Government Securities	Total working Fund	Ratio
2007	7115.7	29937.4	23.77
2008	8137.6	34312.9	23.71
2009	9998.8	41678.8	23.99
2010	8531.5	41525.2	14.04
2011	8579.1	40633.1	21.11

NABIL

Year	Investment on Government Securities	Total working Fund	Ratio
2007	4805.7	29660.4	16.20
2008	4646.9	38478.6	12.08
2009	3706.2	45941.6	8.07
2010	7941.3	54609.8	14.54
2011	6095.8	57071.1	10.68

NIBL

Year	Investment on Government Securities	Total working Fund	Ratio
2007	3256.4	28572.8	11.40
2008	3155.0	40205.5	7.85
2009	2531.3	54634.5	4.63
2010	4201.9	59554.7	7.06
2011	3509.7	59444.5	5.904

Calculation of Mean S.D. and Variance

SCBNL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	23.77	2.45	6.003
2008	23.71	2.39	5.71
2009	23.99	2.67	7.23
2010	14.04	-7.28	53.0
2011	21.11	-0.21	0.044
	$\Sigma X = 106.62$		$\Sigma(X-\bar{X})^2 = 71.99$

Mean $(\bar{X})$ $\frac{106.62}{5} = 21.32$ S.D. $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{71.99}}{5} = 3.79$ Variance $= \frac{\sigma}{\bar{X}} = 17.8\%$

NABIL

Year	X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	16.20	3.886	15.10
2008	12.08	-0.234	0.055
2009	8.07	-4.244	18.01
2010	14.54	2.226	4.96
2011	10.68	-1.634	2.67
	ΣX = 61.57		Σ(X-$\bar{X}$)²= 40.79

Mean ($\bar{X}$) $\frac{61.57}{5}$ = 21.314 S.D. = $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{N}$ = $\frac{\sqrt{40.79}}{5}$ =2.86 Variance = $\frac{\sigma}{\bar{X}}$ = 13.42%

NIBL

Year	X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	11.40	4.03	16.24
2008	7.85	0.48	0.23
2009	4.63	-2.74	7.51
2010	7.065	-0.305	0.093
2011	5.91	-1.46	2.13
	ΣX = 36.855		Σ(X-$\bar{X}$)²= 26.20

$\bar{X} \frac{\Sigma X}{N} = \frac{36.855}{5}$ = 7.37 S.D. = $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{N}$ = $\frac{\sqrt{26.20}}{5}$ =2.29 Variance = $\frac{SD}{\bar{X}}$ = 31.06%

10) Investment on Shares and Debentures to Total Working Fund Ratio

SCBNL

Year	Investment on Share and Debenture	Total working Fund	Ratio
2007	6448.3	29937.4	21.54
2008	5756.7	34312.9	16.78
2009	8633.2	41678.8	20.71
2010	11307.5	41525.2	27.23
2011	8448.2	40633.1	20.79

NABIL

Year	Investment on Share and Debenture	Total working Fund	Ratio
2007	3593.1	29660.4	12.21
2008	5077.0	38478.6	13.19
2009	6896.3	45941.6	15.01
2010	5483.8	54609.	10.04
2011	6129.6	857071.1	10.74

NIBL

Year	Investment on Share and Debenture	Total working Fund	Ratio
2007	3262.2	28572.8	11.41
2008	3724.4	40205.5	9.26
2009	4871.8	54634.5	8.92
2010	3694.5	59554.7	6.20
2011	3456.7	59444.5	5.82

Calculation of Mean S.D and Variance

SCBNL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	21.54	0.15	0.023
2008	16.78	-4.61	21.25
2009	20.71	-0.68	0.46
2010	27.20	5.81	33.76
2011	20.71	-0.68	0.46
	$\Sigma X = 106.94$		$\Sigma(X-\bar{X})^2 = 55.95$

$\bar{X}$ SCBNL $= \frac{106.97}{5} = 21.39$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{55.95}}{5} = 3.35$ Variance $= \frac{SD}{\bar{X}} = 15.66\%$

NABIL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	12.21	-0.1	0.01
2008	13.19	0.88	0.77
2009	15.01	2.7	7.29
2010	10.04	-2.27	5.15
2011	10.74	-1.57	2.46
			$\Sigma(X-\bar{X})^2$= 15.68

Mean $(\bar{X}) = \frac{\Sigma X}{N} = \frac{61.55}{5} = 12.37$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{12.37}}{5} = 1.77$ Variance $= \frac{SD}{\bar{X}} = 14.30\%$

NIBL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	11.41	3.09	9.55
2008	9.26	0.94	0.88
2009	8.92	0.6	0.36
2010	6.20	-2.12	4.49
2011	5.82	-2.5	6.25
			$\Sigma(X-\bar{X})^2$= 21.53

Mean $(\bar{X}) = \frac{\Sigma X}{N} = \frac{41.61}{5} = 8.322$ S.D $= \frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{21.35}}{5} = 2.08$ Variance $= \frac{SD}{\bar{X}} = 24.94\%$

C) Profitability Ratios

11)Return on Total Assets Ratio

SCBNL

Year	Net Profit	Total Assets	Ratio
2007	692.1	29937.4	2.31
2008	814.4	34312.9	2.37
2009	1028.3	41678.8	2.47
2010	1086.8	41525.2	2.62
2011	527.9	40633.1	1.3

NABIL

Year	Net Profit	Total Assets	Ratio
2007	685.6	29660.4	2.31
2008	750.4	38478.6	1.95
2009	1624.9	45941.6	3.54
2010	1798.7	54609.8	3.29
2011	1041.4	57071.1	1.83

Calculation of Standard Deviation of SCBNL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	2.31	0.097	0.0094
2008	2.37	0.156	0.0243
2009	2.47	0.256	0.0655
2010	2.62	0.406	0.165
2011	1.30	-1.914	3.66
			$\Sigma(X-\bar{X})^2 = 3.924$

$$\text{S.D.} = \frac{\sqrt{\Sigma(X-\bar{X})^2}}{N} = \frac{\sqrt{3.924}}{5} = 0.886$$

$$\text{Variance} = \frac{SD}{\bar{X}} = 40\%$$

Calculation S.D. of NABIL

Year	X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	2.31	-0.274	0.075
2008	1.95	-0.634	0.402
2009	3.54	0.956	0.914
2010	3.29	0.706	0.498
2011	1.83	-0.754	0.569
			$\Sigma(X-\bar{X})^2 = 2.548$

$$\text{S.D.} = \frac{\sqrt{(X-\bar{X})^2}}{N} = \frac{\sqrt{2.548}}{5} = 0.70$$

$$\text{Variance} = \frac{SD}{\bar{X}} = 27.01\%$$

Standard Deviation of NIBL

Year	X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	1.97	-0.034	0.0012
2008	2.07	0.066	0.0044
2009	1.80	-0.924	0.8538
2010	2.39	0.386	0.1490
2011	1.79	-0.034	0.0012
			Σ(X-$\bar{X}$)²= 2.548

S. D. of NIBL $= \frac{\sqrt{(X-\bar{X})^2}}{N} = \frac{\sqrt{1.0096}}{5} = 0.45$ Variance $= \frac{SD}{\bar{X}}$ =22%

12) Return on Loan & Advances Ratio

SCBNL

Year	Net Profit	Loan and Advance	Ratio
2007	692.1	10538.1	6.57
2008	814.4	13355.0	6.00
2009	1028.3	13118.6	7.84
2010	1086.8	15932.2	6.82
2011	527.9	16993.6	3.11

NIBL

Year	Net Profit	Loan and Advance	Ratio
2007	561.7	17482.0	3.21
2008	830.7	27145.5	3.06
2009	982.0	36250.4	2.71
2010	1422.5	40689.6	3.50
2011	1065.2	42794.6	2.49

NABIL

Year	Net Profit	Loan and Advance	Ratio
2007	685.6	15657.1	4.38
2008	750.4	21514.6	3.49
2009	1624.9	27816.6	5.84
2010	1798.7	32902.8	5.47
2011	1041.4	36187.1	2.88

Calculation Mean S.D. and Variance

Year	Ratio X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	6.57	0.49	0.24
2008	6.10	0.02	0.0004
2009	7.84	1.76	3.0976
2010	6.82	0.74	0.55
2011	3.11	-2.97	8.82
			Σ(X-$\bar{X}$)²= 12.71

$$S.D. = \frac{\sqrt{(X-\bar{\bar{X}})^2}}{n} = \frac{\sqrt{12.71}}{5} = 1.59 \quad Variance = \frac{SD}{\bar{X}} = 26.22\%$$

NABIL

Year	Ratio X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	4.38	-0.032	0.001
2008	3.49	-0.92	0.846
2009	5.84	1.43	2.045
2010	5.47	1.06	1.24
2011	2.88	-1.53	2.341
			Σ(X-$\bar{X}$)²= 6.36

$$S.D. = \frac{\sqrt{(X-\bar{\bar{X}})^2}}{n} = \frac{\sqrt{6.36}}{5} = 1.23 \quad Variance = \frac{SD}{\bar{X}} = 25.57\%$$

NIBIL

Year	Ratio X	(X-$\bar{X}$)	(X-$\bar{X}$)²
2007	3.31	0.296	0.088
2008	3.06	0.046	0.002
2009	2.71	-0.304	0.092
2010	3.50	0.486	0.236
2011	2.49	-0.524	0.275
	ΣX= 15.07		0.693

$$\bar{X} = \frac{\Sigma X}{n} = \frac{15.07}{5} = 3.014 \quad S.D.\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{0.693}}{5} = 0.037 \quad Variance = \frac{SD}{\bar{X}} = 12.28\%$$

13) Return of investment

SCBNL

Year	Net Profit	Total investment	Ratio
2007	692.1	1356.4	5,10
2008	814.4	13902.8	5.86
2009	1028.3	18640.5	5.52
2010	1086.8	19847.5	5.48
2011	527.9	17035.8	3.10

NABIL

Year	Net Profit	Total investment	Ratio
2007	685.6	8952.3	7.66
2008	750.4	9966.6	7.53
2009	1624.9	1087.5	14.94
2010	1798.7	13612.5	13.21
2011	1041.4	12406.7	8.39

NIBL

Year	Net Profit	Total investment	Ratio
2007	561.7	6518.6	8.62
2008	830.7	6879.4	12.08
2009	982.0	7403.1	13.26
2010	1422.5	7896.4	18.01
2011	1065.2	6966.4	15.29

Calculation Mean S.D. and Variance

SCBNL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	5.10	0.076	0.058
2008	5.86	0.836	0.699
2009	5.52	0.496	0.246
2010	5.48	0.516	0.266
2011	3.10	-1.924	3.702
	25.12		$\Sigma(X-\bar{X})^2 = 4.919$

$\bar{X} = \frac{\Sigma X}{n} = \frac{25.12}{5} = 5.024$ S.D. $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{4.919}}{5} = 0.99$ Variance $= \frac{SD}{\bar{X}} = 19.71\%$

NABIL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	7.66	-2.686	7.214
2008	7.53	-2.816	7.93
2009	14.94	4.594	21.105
2010	13.21	3.044	9.266
2011	8.39	-1.956	3.826
	51.73		$\Sigma(X-\bar{X})^2 = 49.34$

$\bar{X} = \frac{\Sigma X}{n} = \frac{51.73}{5} = 10.346$ S.D. $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{49.34}}{5} = 3.141$ Variance $= \frac{SD}{\bar{X}} = 30.36\%$

NIBL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	8.62	-4.832	23.348
2008	12.08	-1.372	1.882
2009	13.26	-0.192	0.037
2010	18.01	4.558	20.775
2011	15.29	-1.838	3.826
	67.26		$\Sigma(X-\bar{X})^2 = 49.34$

$\bar{X} = \frac{\Sigma X}{n} = \frac{67.26}{5} = 13.542$ S.D. $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{49.42}}{5} = 3.144$ Variance $= \frac{SD}{\bar{X}} = 23.23\%$

14)Return on deposit

SCBNL

Year	Net Profit	Total deposit	Ratio
2007	692.1	24640.3	2.18
2008	814.4	29743.9	2.74
2009	1028.3	35871.8	2.87
2010	1086.8	35182.7	3.09
2011	527.9	34094.3	1.55

NABIL

Year	Net Profit	Total deposit	Ratio
2007	685.6	23342.4	2.94
2008	750.4	31915.0	2.38
2009	1624.9	37348.3	4.35
2010	1798.7	46334.8	3.88
2011	1041.4	46339.6	2.25

NIBL

Year	Net Profit	Total Deposit	Ratio
2007	561.7	24488.9	2.29
2008	830.7	34451.8	2.41
2009	982.0	46697.9	2.10
2010	1422.5	50094.7	2.84
2011	1065.2	48381.8	2.20

Calculation Mean S.D. and Variance

SCBNL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	2.18	0.208	0.043
2008	2.74	0.138	0.019
2009	2.87	0.268	0.238
2010	3.09	-0.488	0.238
2011	1.55	-1.102	1.214
	13.01		$\Sigma(X-\bar{X})^2 = 1.586$

$\bar{X} = \frac{\Sigma X}{n} = \frac{13.01}{5} = 2.602$ S.D.$\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{1.586}}{5} = 0.56$ Variance $= \frac{SD}{\bar{X}} = 21.65\%$

NABIL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	2.94	-0.226	0.051
2008	2.38	-0.886	0.785
2009	4.35	1.184	1.402
2010	3.88	0.714	0.510
2011	2.25	-0.886	0.785
	15.83		$\Sigma(X-\bar{X})^2$= 3.533

$\bar{X} = \frac{\Sigma X}{n} = \frac{15.83}{5} = 3.166$ S.D.$\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{3.533}}{5}$ =0.84 Variance = $\frac{SD}{\bar{X}}$ = 26.55%

NIBL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	2.29	-0.078	0.0061
2008	2.41	-0.042	0.0018
2009	2.10	-0.268	0.072
2010	2.84	0.472	0.223
2011	2.20	-0.168	0.028
	11.84		$\Sigma(X-\bar{X})^2$=0.331

$\bar{X} = \frac{\Sigma X}{n} = \frac{67.26}{5} = 13.542$ S.D.$\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{0.331}}{5}$ =0.26 Variance = $\frac{SD}{\bar{X}}$ = 10.86%

15) Capital risk ratios

SCBNL

Year	Capital	Risk weighted assets	Ratio
2007	1755.3	10538.1	16.66
2008	2117.2	13355.0	15.88
2009	249 3.4	13118.6	19.01
2010	3053.0	15932.2	19.16
2011	3371.6	16993.6	19.84

NIBL

Year	Capital	Total Working Fund	Ratio
2007	1874.8	17482.0	11.97
2008	2057.0	27145.5	16.44
2009	2436.2	36250.4	8.76
2010	3129.4	40689.0	9.51
2011	3835.7	64279.4	10.6

NIBL

Year	capital	Total Working Fund	Ratio
2007	1370.8	15057.1	7.84
2008	1959.0	21514.6	7.23
2009	3421.1	27816.6	9.44
2010	3765.2	32902.8	9.23
2011	4585.4	36187.1	10.71

Calculation of mean sd and cv

SCBNL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	16.66	-1.444	2.085
2008	15.88	-2.254	5.081
2009	19.01	0.906	0.821
2010	19.16	1.05	1.115
2011	19.84	1.736	3.014
	90.52		$\Sigma(X-\bar{X})^2 = 12.116$

$\bar{X} = \frac{\Sigma X}{n} = \frac{90.52}{5} = 18.014$ S.D. $\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{12.116}}{5} = 1.56$ Variance $= \frac{SD}{\bar{X}} = 8.64\%$

NABIL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	11.97	0.514	0.514
2008	16.44	4.984	24.84
2009	8.76	-2.696	7.268
2010	9.51	-1.946	3.787
2011	10.6	-0.856	0.733
	57.28		$\Sigma(X-\bar{X})^2$= 37.142

$\bar{X} = \frac{\Sigma X}{n} = \frac{57.28}{5} = 11.456$ S.D.$\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{37.142}}{5} = 2.73$ Variance $= \frac{SD}{\bar{X}} = 23.79\%$

NIBL

Year	Ratio X	$(X-\bar{X})$	$(X-\bar{X})^2$
2007	7.84	-1.05	1.103
2008	7.23	-1.66	2.756
2009	9.44	0.55	0.303
2010	9.23	0.34	0.116
2011	10.71	1.82	3.312
	44.45		$\Sigma(X-\bar{X})^2$=7.59

$\bar{X} = \frac{\Sigma X}{n} = \frac{44.45}{5} = 8.89$ S.D.$\frac{\sqrt{\Sigma(X-\bar{X})^2}}{n} = \frac{\sqrt{7.59}}{5} = 1.23$ Variance $= \frac{SD}{\bar{X}} = 13.86\%$

17) Correlation Coefficient

SCBNL

Coefficient of Correlation between Deposit and Loan and Advance

Year	Deposit (x)	Loan and Advance (Y)	$X_1 = (X-\bar{X})$	X^2
2007	24640.3	10538.1	-7266.3	52799115.69
2008	29743.9	13355.0	-2162.7	4677271.29
2009	35871.8	13118.6	3965.2	15722811.04
2010	35182.7	15932.2	3276.1	10732831.21
2011	34094.3	16993.6	2187.7	4786031.29
	ΣX= 159533	ΣY= 69937.5		88718060.52

$$\bar{X} = \frac{159533}{5} = 31906.6$$

$$\bar{Y} = 13987.5$$

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-3449.4	11898360.36	25064375.22
2008	-632.5	400056.25	1367907.75
2009	-868.9	754987.21	-3445362.28
2010	1944.7	3781858.09	6371031.67
2011	3006.1	9036637.21	6576444.97
		25871899.12	35934397.33

$$\frac{XY}{\sqrt{\Sigma x^2} \times (\Sigma Y^2)} \quad \frac{35934397.33}{9419.03 \times 5086.44} = 0.75 \text{ Positive Correlated .}$$

P.E. (r) $= 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.132$

6P.E =0.79

NABIL

Correlation Coefficient Between Total Deposit Loan and Advance

Year	Total Deposit	Loan and Advance	$X = X - \bar{X}$	X^2
2007	23342.4	15657.1	-13713.62	188063373.5
2008	31915.0	21514.6	-5141.02	26430086.64
2009	37348.3	27816.6	292.28	85427.6
2010	46334.8	32902.8	9278.78	86095758.29
2011	46339.6	36187.1	9283.58	86184857.62
	185280.1	134078.2		386859503.6

$\bar{X} = \dfrac{37056.02}{5} = 37056.02$

$\bar{y} = \dfrac{134078.2}{5} = 26815.64$

Year	$Y = Y - \bar{Y}$	Y^2	XY
2007	11158.54	124513014.9	15339232.51
2008	5301.04	28101025.08	27252752.66
2009	1000.96	1001920.92	292560.59
2010	6087.16	37053516.87	56481418.46
2011	9371.46	87824262.53	87000698.63
		278493740.3	176366662.9

$r = \dfrac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = \dfrac{176366662.9}{19668.743 \times 16688.13} = 0.54$

P.E. (r) = $0.6745 \times \dfrac{1-r^2}{\sqrt{n}} = 0.213$

6Per=1.29

NIBL

Correlation Coefficient Between Total Deposit and Loan and Advance

Year	X	Y	$X = X - \bar{X}$	X^2
2007	244888.9	17482.0	-16333.96	266803802.9
2008	34451.8	27145.5	-6371.06	40592571.71
2009	46697.9	36250.5	5875.04	34514097.52
2010	50094.9	40689.6	9271.84	85963864.59
2011	48381.8	42794.6	7558.94	57135003.91
		164362.2		485009340.6

Year	Y= y-$\bar{y}$	Y^2	Xy
2007	-15390.42	23865643.4	251278156.1
2008	-5726.94	32797841.76	36652274.54
2009	3378.06	11411289.36	19869548.6.07
2010	7817.16	61107990.47	72534675.16
2011	9922.16	98449259.07	75071015.44
		440632024.1	455405669.8

$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = 0.985$ P.E. (r) $= 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.09$ 6PEr=0.054

16) Correlation Coefficient between Total Deposit and Total Investment

SCBNL

Correlation Coefficient between Total Deposit and Total Investment

Year	Total Deposit (x)	Total Investment (Y)	$X_1 = (X-\bar{X})$	X^2
2007	24640.3	13564	-7266.3	52799115.69
2008	29743.9	13902.8	-2162.7	4677271.29
2009	35871.8	18640.5	3965.2	15722811.04
2010	35182.7	19847.5	3276.1	10732831.21
2011	34094.3	17035.8	2187.7	4786031.29
	ΣX =159533	ΣY= 82990.6		88718060.52

Here, n = 5

$X = \frac{\Sigma X}{n} \frac{159533}{5} = 31906.5$

$Y = \frac{\Sigma Y}{N} = \frac{82990.6}{5} = 16598.12$

Year	Y = Y-$\bar{Y}$	Y^2	XY
2007	-3034.12	9205884.174	2204826.16
2008	-2695.32	7264749.902	5829168.56
2009	2042.38	4171316.064	8098445.18
2010	3249.38	10558470.38	10645293.82
2011	437.68	191563.7824	957512.,54
		31391984.3	46717002.32

Here,

Calculation of Correlation Coefficient

$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = 0.885$

$P.E. (r) = 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.065$

$6PEr = 0.39$

NABIL

Correlation Coefficient Between Total Deposit and Total Investment

Year	Total Deposit	Total Investment	$X = (X-\bar{X})$	X^2
2007	23342.4	8952.3	-13713.62	1880663373.5
2008	31915.0	9966.6	-5141.02	26430086.64
2009	37348.3	10875	292.28	85427.6
2010	46334.8	13612.1	9278.78	86095758.29
2011	46339.6	12406.7	9283.58	86184857.62
	185280.1	55812.7		386859503.6

X= 37056.02

$Y = \frac{55812.7}{5} = 11162.54$

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-2210.24	4885160.86	30310391.47
2008	-1195.94	1430272.48	6148351.46
2009	-287.54	82679.25	-48042.19
2010	2449.56	6000344.19	22728928.34
2011	1244.16	1547934.11	11550258.89
		$\Sigma y^2 = 13946390.89$	$\Sigma xy = 70689893.97$

NIBL

Correlation Coefficient Between Total Deposit and Total Investment

Year	Total Deposit (x)	Total Investment (Y)	$X = X-\bar{X}$	X^2
2007	24488.9	6518.6	-16334.12	266803802.9
2008	34451.8	6879.4	-6371.22	40592444.29
2009	36697.9	7403.1	5874.87	34514097.52
2010	50094.7	7896.4	9271.68	85964050.02
2011	48381.8	6966.4	7558.78	57135155.09
	204115.1	35663.9		485009340.6

$X = \frac{204115.1}{5} = 40823.02$ Y = 7132.78

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-614.18	377217.07	10032095.96
2008	-253.38	64201.42	1614342.26
2009	270.32	72072.90	7080032.86
2010	763.62	583115.50	7080032.65
2011	-166.38	27682.3	1257628.15
		1124289.19	19056937.58

r = $\frac{XY}{\sqrt{\Sigma X^2} \times \sqrt{Y^2}}$

$\frac{19056937.58}{\sqrt{485009340.6} \times \sqrt{1124289.19}}$ =0.82

P.E. (r) = $0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.099$

6PEr = 0.59

18)Correlation Coefficient Between Investment and Net PROFIT

SCBNL

Year	Total Investment	Net profit (Y)	$X_1 = (X-\bar{X})$	X^2
2007	8952.3	692.1	-7266.3	52799115.69
2008	9966.6	814.4	-2162.7	4677271.29
2009	10875	1028.3	3965.2	15722811.04
2010	13612.1	1086.8	3276.1	10732831.21
2011	12406.7	527.9	2187.7	4786031.29
	55812.7	ΣY= 4149		88718060.52

Here, n = 5

$X = \frac{\Sigma X}{n} \frac{159533}{5} = 31906.5$

$Y = \frac{\Sigma Y}{N} = \frac{82990.6}{5} = 16598.12$

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-137.8	18988.84	1001296.14
2008	-15.5	240.25	33521.85
2009	198.4	39362.56	786695.68
2010	256.9	65997.61	841630.09
2011	-302	91204	-657967.4
		215793.26	2005176.37

Here,

Calculation of Correlation Coefficient

$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = 0.458$

P.E. (r) $= 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.237$

6PEr $= 1.42$

NABIL

Year	Total Investment (X)	Net profit (Y)	$X_1 = (X-\bar{X})$	X^2
2007	13564	685.6	-2210.24	4885160.86
2008	13902.8	750.4	-1195.94	1430272.48
2009	18640.5	1624.9	-287.54	82679.25
2010	19847.5	1798.7	2449.56	6000344.19
2011	17035.8	1041.4	1244.16	1547934.11
	ΣY= 82990.6	ΣY= 5901		Σ X^2 = 13946390.89

Here, n = 5

$X = \frac{\Sigma X}{n} == \frac{82990.6}{5} = 16598.12$

$Y= \frac{\Sigma Y}{N} = \frac{5901}{5} = 1180.2$

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-494.6	244629.16	1093184.70
2008	-429.8	184728.04	514015.01
2009	444.7	197795.09	-127869.04
2010	618.5	382542.25	1515052.86
2011	-138.8	19265.44	-172689.41
		1028923.98	2821694.12

Here,

Calculation of Correlation Coefficient

$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = 0.745$

P.E. (r) $= 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.134$

6PEr $= 0.80$

NIBL

Correlation Coefficient Between Total Investment and net profit

Year	Total Investment (X)	Net profit(Y)	$X = X-\bar{X}$	X^2
2007	6518.6	561.7	-614.18	377217.07
2008	6879.4	830.7	-253.38	64201.42
2009	7403.1	982	270.32	72072.90
2010	7896.4	1422.5	763.62	583115.50
2011	6966.4	1065.2	-166.38	27682.3
	35663.9	4862.1		1124289.19

$X = \frac{35663.9}{5} = 7132.78$

Year	$Y = Y-\bar{Y}$	Y^2	XY
2007	-410.72	168690.92	252256.01
2008	-141.72	20084.56	35909.01
2009	9.58	91.78	2662.65
2010	450.01	202572.01	343690.09
2011	92.78	8608.13	-15436.74
		400047.40	619081.02

Here,

Calculation of Correlation Coefficient

$r = \frac{\Sigma XY}{\sqrt{\Sigma X^2} \times \sqrt{\Sigma Y^2}} = 0.923$

P.E. (r) $= 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.045$

6PEr $= 0.267$

20 Trend analysis

SCBNL

Train Analysis of Investment

Year (t)	SCBNL	X(t-2009)	X^2	XY	Y=a+bx
2007	13564.0	-2	4	-271028	14020.46
2008	13902.8	-1	1	13902.8	15309.29
2009	18640.5	0	0	0	16598.12
2010	19847.5	1	1	19847.5	17886.95
2011	17035.8	2	4	34071.6	19176.49
	Σy = 82990.6	ΣX^2 = 10		Σ ×y = 12888.3	

Y= a+bx

$a = \frac{\Sigma y}{n} = \frac{82990.6}{5} = 16598.12$

$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{128888.3}{10} = 1288.83$

Projected value of next five year

Year (t)	X(t-2009)	Y= a + bx
2012	3	20464.61
2013	4	21753.44
2014	5	23042.27
2015	6	24331.1
2016	7	25619.93

NABIL

Year (t)	NABIL(Y)	X(t-2009)	X^2	XY	Y=a+bx
2007	8952.3	-2	4	-35809.2	7729.92
2008	9966.6	-1	1	9962.6	9446.23
2009	10087.5	0	0	0	11162.54
2010	13612.1	1	1	13612.1	12878.75
2011	12406.7	2	4	49626.8	14595.16
	Σy = 55812.7	ΣX^2 = 10		Σ ×y= 17163.1	

Y= a+bx

$$a = \frac{\Sigma y}{n} = \frac{55812.7}{5} = 11162.54$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{17163.1}{10} = 1716.31$$

Projected value of next five year

Year (t)	X(t-2009)	Y= a + bx
2012	3	16311.47
2013	4	18027.78
2014	5	19744.09
2015	6	21460.4
2016	7	23176.71

NIBL

Year (t)	NIBL(Y)	X(t-2009)	X²	XY	Y=a+bx
2007	6518.6	-2	4	-26074.4	6571.14
2008	6879.4	-1	1	-6879.4	6851.96
2009	7403.1	0	0	0	7132.78
2010	7896.4	1	1	7896.4	7413.6
2011	6966.4	2	4	27865.6	7694.42
	Σy = 35663.9	ΣX² = 10		Σ ×y =2808.2	

Y= a+bx

$$a = \frac{\Sigma y}{n} = \frac{35663.9}{5} = 7132.78$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{2808.2}{10} = 280.82$$

projected value of next five year

Year (t)	X(t-2009)	Y= a + bx
2012	3	7975.24
2013	4	8256.06
2014	5	8536.88
2015	6	8817.7
2016	7	9098.52